

# 2021 Index

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This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2021, and items from previous years that were commented upon or corrected in 2021. Departments and other items may also be covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Note that the item title is found only under the primary entry in the Author Index.

#### Author Index

#### A

- Abedin, M.**, see Rafiq, S., *TCSI July 2021 2900-2910*
- Abich, G.**, Gava, J., Garibotti, R., Reis, R., and Ost, L., Applying Lightweight Soft Error Mitigation Techniques to Embedded Mixed Precision Deep Neural Networks; *TCSI Nov. 2021 4772-4782*
- Abidi, A.A.**, see Leng, W., *TCSI March 2021 975-988*
- Abraham, A.S.**, see Hu, X., *TCSI Jan. 2021 301-310*
- Acharya, J.**, see Zhang, X., *TCSI Feb. 2021 617-630*
- Acken, J.M.**, see Aljafar, M.J., *TCSI Nov. 2021 4456-4469*
- Adelmann, C.**, see Mahmoud, A.N., *TCSI Jan. 2021 536-549*
- Afshari, E.**, see Fayazi, M., *TCSI June 2021 2418-2431*
- Afshari, E.**, see Khochini, F., *TCSI Sept. 2021 3642-3655*
- Afzali-Kusha, A.**, see Vahdat, S., *TCSI Aug. 2021 3411-3421*
- Afzali-Kusha, A.**, see Vahdat, S., *TCSI Oct. 2021 4310-4323*
- Agarwal, P.**, Chahardori, M., and Heo, D., A New Boosted Active-Capacitor With Negative- $G_m$  for Wide Tuning Range VCOs; *TCSI March 2021 1080-1090*
- Agarwal, R.K.**, see Gong, C., *TCSI Aug. 2021 3422-3435*
- Agrawal, A.**, Wang, C., Sharma, T., and Roy, K., Magnetoresistive Circuits and Systems: Embedded Non-Volatile Memory to Crossbar Arrays; *TCSI June 2021 2281-2294*
- Ahmadi, A.**, see Haghir, S., *TCSI Jan. 2021 275-287*
- Ahmadi, A.**, see Ghanbarpour, M., *TCSI Dec. 2021 5072-5080*
- Ahmadi, M.**, Vakili, S., and Langlois, J.M.P., CARLA: A Convolution Accelerator With a Reconfigurable and Low-Energy Architecture; *TCSI Aug. 2021 3184-3196*
- Ahmed, M.**, see Tao, T., *TCSI May 2021 1906-1916*
- Ahn, C.K.**, see Song, X., *TCSI Jan. 2021 363-375*
- Ahn, C.K.**, see Kim, Y., *TCSI Jan. 2021 396-405*
- Ahn, C.K.**, see Wu, Y., *TCSI June 2021 2639-2650*
- Ahn, C.K.**, see Qi, W., *TCSI June 2021 2665-2674*
- Ahn, C.K.**, see Li, K., *TCSI July 2021 3069-3078*
- Ahn, C.K.**, see Song, X., *TCSI Sept. 2021 3869-3880*
- Ahn, H.K.**, see Choi, S., *TCSI June 2021 2481-2493*
- Ahn, S.**, see Lim, C., *TCSI Aug. 2021 3242-3253*
- Aiello, O.**, see Toledo, P., *TCSI Sept. 2021 3693-3706*
- Akbari, M.**, Honarparvar, M., Savaria, Y., and Sawan, M., Power Bound Analysis of a Two-Step MASH Incremental ADC Based on Noise-Shaping SAR ADCs; *TCSI Aug. 2021 3133-3146*
- Akkaya, A.**, Celik, F., and Leblebici, Y., An 8-Bit 800 MS/s Loop-Unrolled SAR ADC With Common-Mode Adaptive Background Offset Calibration in 28 nm FDSOI; *TCSI July 2021 2766-2774*
- Aktan, M.**, see Kara, I., *TCSI Jan. 2021 210-223*
- Al Chawa, M.M.**, see Messaris, I., *TCSI Dec. 2021 4979-4992*
- Al-Greer, M.**, see Xu, J., *TCSI Aug. 2021 3520-3533*
- Al-Qaq, W.**, see Jiang, H., *TCSI April 2021 1432-1443*
- Alattas, K.A.**, see Mobayen, S., *TCSI Oct. 2021 4403-4412*
- Albea, C.**, Sferlazza, A., Gordillo, F., and Gomez-Estern, F., Control of Power Converters With Hybrid Affine Models and Pulse-Width Modulated Inputs; *TCSI Aug. 2021 3485-3494*
- Alioto, M.**, see Toledo, P., *TCSI Sept. 2021 3693-3706*
- Alivand, A.**, see Farzam, M., *TCSI May 2021 2042-2050*
- Alizadeh, A.**, see Ayati, S., *TCSI Feb. 2021 868-878*
- Aljafar, M.J.**, and Acken, J.M., A 3-D Crossbar Architecture for Both Pipeline and Parallel Computations; *TCSI Nov. 2021 4456-4469*
- Allen, M.**, see Campo, P.P., *TCSI Jan. 2021 336-349*
- Almeida, S.J.M.**, see Seidel, H.B., *TCSI May 2021 1814-1826*
- Alon, E.**, see Han, J., *TCSI March 2021 1012-1022*
- Alpert, T.**, see Lanniel, A., *TCSI Jan. 2021 175-184*
- Alshalalfah, A.**, Hamad, G.B., and Mohamed, O.A., Towards Safe and Robust Closed-Loop Artificial Pancreas Using Improved PID-Based Control Strategies; *TCSI Aug. 2021 3147-3157*
- Alu, A.**, see Tymchenko, M., *TCSI Feb. 2021 569-580*
- Alvarez-Fontecilla, E.**, Eissa, A.I., Helal, E., Weltin-Wu, C., and Galton, I., Delta-Sigma FDC Enhancements for FDC-Based Digital Fractional-N PLLs; *TCSI March 2021 965-974*
- Amrouch, H.**, see Paim, G., *TCSI April 2021 1481-1492*
- Amrouch, H.**, see Klemme, F., *TCSI June 2021 2569-2579*
- Amrouch, H.**, see Salamin, S., *TCSI Oct. 2021 4299-4309*
- Amrouch, H.**, see Balaskas, K., *TCSI Nov. 2021 4710-4721*
- Anastasova, M.**, Azarderakhsh, R., and Kermani, M.M., Fast Strategies for the Implementation of SIKE Round 3 on ARM Cortex-M4; *TCSI Oct. 2021 4129-4141*
- Andjelkovic, M.**, see Schrape, O., *TCSI Nov. 2021 4796-4809*
- Angizi, S.**, see Jiang, H., *TCSI March 2021 1217-1230*
- Anjos, E.V.P.**, Schreurs, D., Vandenbosch, G.A.E., and Geurts, M., A Compact 26.5–29.5-GHz LNA-Phase-Shifter Combo With 360° Continuous Phase Tuning Based on All-Pass Networks for Millimeter-Wave 5G; *TCSI Sept. 2021 3927-3940*
- Anttila, L.**, see Campo, P.P., *TCSI Jan. 2021 336-349*
- Arakawa, R.**, Onizawa, N., Diguët, J., and Hanyu, T., Multi-Context TCAM-Based Selective Computing: Design Space Exploration for a Low-Power NN; *TCSI Jan. 2021 67-76*
- Araujo, G.M.**, see Passos, W.L., *TCSI Nov. 2021 4761-4771*
- Arbabian, A.**, see Rekh, A.S., *TCSI June 2021 2555-2568*
- Ariyawansa, G.**, see Fragasse, R., *TCSI May 2021 1827-1840*
- Armstrong, M.**, see Xu, J., *TCSI Aug. 2021 3520-3533*
- Aroudi, A.E.**, see Martinez-Trevino, B.A., *TCSI Jan. 2021 524-535*
- Asadikouhanjani, M.**, Zhang, H., Gopalakrishnan, L., Lee, H., and Ko, S., A Real-Time Architecture for Pruning the Effectual Computations in Deep Neural Networks; *TCSI May 2021 2030-2041*
- Ascoli, A.**, see Weiher, M., *TCSI May 2021 2082-2095*
- Ascoli, A.**, see Messaris, I., *TCSI Dec. 2021 4979-4992*
- Ascoli, A.**, see Kang, S.M., *TCSI Dec. 2021 4837-4850*
- Assawinchaichote, W.**, see Mobayen, S., *TCSI Oct. 2021 4403-4412*
- Assmann, W.**, see Vallicelli, E.A., *TCSI Jan. 2021 3-13*
- Audet, Y.**, see Mirfakhraei, S.S., *TCSI April 2021 1388-1397*
- Avallone, L.**, Mercandelli, M., Santiccioli, A., Kennedy, M.P., Levantino, S., and Samori, C., A Comprehensive Phase Noise Analysis of Bang-Bang Digital PLLs; *TCSI July 2021 2775-2786*
- Avramovic, V.**, see Margalef-Rovira, M., *TCSI Aug. 2021 3170-3183*
- Awasthi, M.**, see Jha, C.K., *TCSI Aug. 2021 3337-3350*

Ayati, S., Alizadeh, A., and Kiaei, S., CMOS Full-Duplex Mixer-First Receiver With Adaptive Self-Interference Cancellation; *TCSI Feb. 2021 868-878*  
 Azarderakhsh, R., see Anastasova, M., *TCSI Oct. 2021 4129-4141*  
 Azarderakhsh, R., see Bisheh-Niasar, M., *TCSI Nov. 2021 4648-4659*  
 Aziz-Alaoui, M.A., see Liu, C., *TCSI Sept. 2021 3772-3783*  
 Azmat, R., Wang, L., Maqbool, K.Q., Wang, C., and Yue, C.P., Sensing and Cancellation Circuits for Mitigating EMI-Related Common Mode Noise in High-Speed PAM-4 Transmitter; *TCSI Nov. 2021 4545-4555*

## B

Babic, M., see Fan, X., *TCSI July 2021 3031-3043*  
 Badawi, D., see Nasrin, S., *TCSI May 2021 1966-1978*  
 Bae, S., Kim, D., Kim, D., Nam, I., and Im, D., A Reconfigurable Passive Mixer-Based Sub-GHz Receiver Front-End for Fast Spectrum Sensing Functionality; *TCSI Feb. 2021 892-903*  
 Bae, W., see Han, J., *TCSI March 2021 1012-1022*  
 Bai, K., Liu, L., and Yi, Y., Spatial-Temporal Hybrid Neural Network With Computing-in-Memory Architecture; *TCSI July 2021 2850-2862*  
 Bai, L., Lyu, Y., and Huang, X., RoadNet-RT: High Throughput CNN Architecture and SoC Design for Real-Time Road Segmentation; *TCSI Feb. 2021 704-714*  
 Bai, Y., see Zhang, Y., *TCSI March 2021 1193-1205*  
 Baik, J.M., see Choi, S., *TCSI June 2021 2432-2443*  
 Balashov, A., see Schrape, O., *TCSI Nov. 2021 4796-4809*  
 Balaskas, K., Zervakis, G., Amrouch, H., Henkel, J., and Siozios, K., Automated Design Approximation to Overcome Circuit Aging; *TCSI Nov. 2021 4710-4721*  
 Bale, S.J., see Cao, L., *TCSI Nov. 2021 4660-4671*  
 Baltus, P.G.M., see Berkol, G., *TCSI April 2021 1409-1420*  
 Bampi, S., see Paim, G., *TCSI April 2021 1481-1492*  
 Bampi, S., see Seidel, H.B., *TCSI May 2021 1814-1826*  
 Banerjee, I., see Tannirkulam Chandrasekaran, S., *TCSI March 2021 1023-1033*  
 Bao, B., see Bao, H., *TCSI Nov. 2021 4534-4544*  
 Bao, H., Hua, Z., Li, H., Chen, M., and Bao, B., Discrete Memristor Hyperchaotic Maps; *TCSI Nov. 2021 4534-4544*  
 Bao, S., see Wang, S., *TCSI Dec. 2021 4900-4909*  
 Baric, A., see Mikulic, J., *TCSI Oct. 2021 4076-4089*  
 Barragan, M.J., see David, J., *TCSI Aug. 2021 3131-3132*  
 Barragan, M.J., see Margalef-Rovira, M., *TCSI Aug. 2021 3170-3183*  
 Barthwal, A., Rawat, K., and Koul, S.K., Dual Input Digitally Controlled Broadband Three-Stage Doherty Power Amplifier With Back-Off Reconfigurability; *TCSI April 2021 1421-1431*  
 Basak, D., see Wang, H., *TCSI March 2021 1114-1122*  
 Baschiroto, A., see Vallicelli, E.A., *TCSI Jan. 2021 3-13*  
 Basin, M.V., see Shen, H., *TCSI Feb. 2021 818-828*  
 Basu, A., see Zhang, X., *TCSI Feb. 2021 617-630*  
 Bayat-Sarmadi, S., see Farzam, M., *TCSI May 2021 2042-2050*  
 Becermis, M., see Kara, I., *TCSI Jan. 2021 210-223*  
 Becker, J., see Reuter, M., *TCSI Jan. 2021 114-125*  
 Beckmann, K., see Rafiq, S., *TCSI July 2021 2900-2910*  
 Beerel, P.A., see Datta, G., *TCSI May 2021 1990-2002*  
 Behbahani, F., Jooq, M.K.Q., Moaiyeri, M.H., and Tamersit, K., Leveraging Negative Capacitance CNTFETs for Image Processing: An Ultra-Efficient Ternary Image Edge Detection Hardware; *TCSI Dec. 2021 5108-5119*  
 Beloso-Legarra, J., Cruz-Blas, C.A.d.l., Lopez-Martin, A.J., and Ramirez-Angulo, J., Gain-Boosted Super Class AB OTAs Based on Nested Local Feedback; *TCSI Sept. 2021 3562-3573*  
 Benini, L., see Eggimann, M., *TCSI Oct. 2021 4116-4128*  
 Berkol, G., Baltus, P.G.M., Harpe, P.J.A., and Cantatore, E., A 1.25  $\mu$ J per Measurement Ultrasound Rangefinder System in 65 nm CMOS for Explorations With a Swarm of Sensor Nodes; *TCSI April 2021 1409-1420*  
 Bermak, A., see Yin, P., *TCSI July 2021 2925-2935*  
 Bermak, A., see Lin, T.N., *TCSI Oct. 2021 3991-4000*  
 Bernardini, A., Maffezzoni, P., and Sarti, A., Vector Wave Digital Filters and Their Application to Circuits With Two-Port Elements; *TCSI March 2021 1269-1282*

Bertrand, K., see Li, M., *TCSI May 2021 2224-2233*  
 Bi, X., see Liu, X., *TCSI Jan. 2021 238-249*  
 Bi, X., Cao, Z., Feng, Z., Sheng, C., and Xu, Q., An Interstage-Reflectionless  $V$ -Band Radiometer With Capacitor-Reused Absorptive Matching in 0.13- $\mu$ m SiGe BiCMOS; *TCSI Nov. 2021 4589-4602*  
 Biccario, G.E., Vitrenko, O., Nonis, R., and D'Amico, S., A 1.6-V Tolerant Multiplexer Switch With 0.96-V Core Devices in 28-nm CMOS Technology; *TCSI Nov. 2021 4626-4635*  
 Bie, L., see Wu, J., *TCSI May 2021 2271-2279*  
 Bien, F., see Namgoong, G., *TCSI June 2021 2702-2713*  
 Bisheh-Niasar, M., Azarderakhsh, R., and Mozaffari-Kermani, M., Instruction-Set Accelerated Implementation of CRYSTALS-Kyber; *TCSI Nov. 2021 4648-4659*  
 Bishnoi, R., see Singh, A., *TCSI May 2021 1917-1930*  
 Bisiaux, P., see Koskin, E., *TCSI Jan. 2021 406-415*  
 Bistritz, Y., Bounded-Input Bounded-Output Stability Tests for Two-Dimensional Continuous-Time Systems; *TCSI May 2021 2134-2147*  
 Biswas, K., see Mohapatra, A.S., *TCSI Feb. 2021 655-666*  
 Blokhina, E., Special Issue on the IEEE Asia Pacific Conference of Circuits and Systems 2019 and the IEEE International Conference on Electronics, Circuits and Systems 2019; *TCSI Jan. 2021 1-2*  
 Blokhina, E., see Koskin, E., *TCSI Jan. 2021 406-415*  
 Blokhina, E., Guest Editorial Special Issue on the IEEE Latin American Symposium on Circuits and Systems 2020; *TCSI May 2021 1787-1788*  
 Bocquet, M., see Laborieux, A., *TCSI Jan. 2021 138-147*  
 Boeser, T., see Lanniel, A., *TCSI Jan. 2021 175-184*  
 Bol, D., see Kneip, A., *TCSI May 2021 1931-1944*  
 Boljanovic, V., Yan, H., Lin, C., Mohapatra, S., Heo, D., Gupta, S., and Cabric, D., Fast Beam Training With True-Time-Delay Arrays in Wideband Millimeter-Wave Systems; *TCSI April 2021 1727-1739*  
 Bonfanti, A., see Buccoleri, F., *TCSI July 2021 2800-2812*  
 Boon, C.C., see Liu, B., *TCSI June 2021 2404-2417*  
 Borgmans, J., Riem, R., and Rombouts, P., The Analog Behavior of Pseudo-Digital Ring Oscillators Used in VCO ADCs; *TCSI July 2021 2827-2840*  
 Bourdel, S., see Gomes, L., *TCSI Aug. 2021 3158-3169*  
 Bourdel, S., see Margalef-Rovira, M., *TCSI Aug. 2021 3170-3183*  
 Bourdoux, A., see Li, M., *TCSI May 2021 2224-2233*  
 Breitenreiter, A., see Schrape, O., *TCSI Nov. 2021 4796-4809*  
 Brihuega, A., see Campo, P.P., *TCSI Jan. 2021 336-349*  
 Brown, T.D., see Messaris, I., *TCSI Dec. 2021 4979-4992*  
 Buccoleri, F., Bonfanti, A., and Lacaita, A.L., A Generalization of the Groszkowski's Result in Differential Oscillator Topologies; *TCSI July 2021 2800-2812*  
 Buchanan, N., see Zhang, Z., *TCSI Sept. 2021 3598-3610*  
 Bulic, P., see Pilipovic, R., *TCSI June 2021 2535-2545*  
 Buss, M., see Du, Y., *TCSI Oct. 2021 4324-4336*  
 Butt, U.M., Khan, S.A., Ullah, A., Khaliq, A., Reviriego, P., and Zahir, A., Towards Low Latency and Resource-Efficient FPGA Implementations of the MUSIC Algorithm for Direction of Arrival Estimation; *TCSI Aug. 2021 3351-3362*  
 Butz, N., Kalita, U., and Manoli, Y., Active Charge Balancer With Adaptive 3.3 V to 38 V Supply Compliance for Neural Stimulators; *TCSI Oct. 2021 4013-4024*

## C

Caballero, R., see Cabrera, C., *TCSI Aug. 2021 3232-3241*  
 Cabrera, C., Caballero, R., Costa-Rauschert, M.C., Rossi-Aicardi, C., and Oreggioni, J., Low-Voltage Low-Noise High-CMRR Biopotential Integrated Preamplifier; *TCSI Aug. 2021 3232-3241*  
 Cabric, D., see Boljanovic, V., *TCSI April 2021 1727-1739*  
 Cady, N.C., see Rafiq, S., *TCSI July 2021 2900-2910*  
 Cai, Y., see Wang, S., *TCSI Dec. 2021 4900-4909*  
 Calhoun, B.H., see Gupta, S., *TCSI March 2021 1171-1182*  
 Calhoun, B.H., see Gupta, S., *TCSI Dec. 2021 5038-5048*  
 Calimera, A., see Mocerino, L., *TCSI Jan. 2021 77-88*

- Callens, N.**, and Gielen, G.G.E., Analysis and Comparison of Readout Architectures and Analog-to-Digital Converters for 3D-Stacked CMOS Image Sensors; *TCSI Aug. 2021 3117-3130*
- Campo, P.P.**, Brihuega, A., Anttila, L., Turunen, M., Korpi, D., Allen, M., and Valkama, M., Gradient-Adaptive Spline-Interpolated LUT Methods for Low-Complexity Digital Predistortion; *TCSI Jan. 2021 336-349*
- Cantatore, E.**, see Berkol, G., *TCSI April 2021 1409-1420*
- Cao, J.**, see Wang, C., *TCSI Jan. 2021 387-395*
- Cao, L.**, Bale, S.J., and Trefzer, M.A., Multi-Objective Digital Design Optimization via Improved Drive Granularity Standard Cells; *TCSI Nov. 2021 4660-4671*
- Cao, N.**, see Karimzadeh, F., *TCSI Feb. 2021 751-764*
- Cao, Y.**, Zhang, S., Zhang, T., Chen, Y., Zhao, Y., Chen, C., Ye, F., and Ren, J., A 91.0-dB SFDR Single-Coarse Dual-Fine Pipelined-SAR ADC With Split-Based Background Calibration in 28-nm CMOS; *TCSI Feb. 2021 641-654*
- Cao, Z.**, see Bi, X., *TCSI Nov. 2021 4589-4602*
- Capone, S.**, see Radogna, A.V., *TCSI March 2021 1123-1133*
- Carta, C.**, see Ferschischi, A., *TCSI June 2021 2368-2381*
- Cavallaro, M.**, and Nicollini, G., A Complex Band-Pass Filter for Low-Power and High-Performance Transceivers; *TCSI Dec. 2021 5018-5028*
- Celik, F.**, see Akkaya, A., *TCSI July 2021 2766-2774*
- Centurelli, F.**, Scotti, G., Trifiletti, A., and Palumbo, G., Design of Low-Voltage Power Efficient Frequency Dividers in Folded MOS Current Mode Logic; *TCSI Feb. 2021 680-691*
- Cetin, A.E.**, see Nasrin, S., *TCSI May 2021 1966-1978*
- Chadalawada, R.**, see Jiang, H., *TCSI April 2021 1432-1443*
- Chae, H.Y.**, see Choi, S., *TCSI June 2021 2432-2443*
- Chae, Y.**, see Kim, T., *TCSI Dec. 2021 5029-5037*
- Chahardori, M.**, see Agarwal, P., *TCSI March 2021 1080-1090*
- Chai, Y.**, see Zhao, D., *TCSI Oct. 2021 3977-3990*
- Chai, Y.**, see Zhao, D., *TCSI Oct. 2021 4413*
- Chakrabarty, K.**, see Liu, P., *TCSI Nov. 2021 4444-4455*
- Chamanian, S.**, see Ciftci, B., *TCSI April 2021 1458-1471*
- Chan, C.**, see Jiang, W., *TCSI Feb. 2021 557-568*
- Chandrachoodan, N.**, see Koneru, B.N.G., *TCSI Oct. 2021 4287-4298*
- Chandrakasan, A.P.**, see Yi, X., *TCSI Sept. 2021 3537-3550*
- Chang, C.**, see Li, C., *TCSI May 2021 1881-1891*
- Chang, E.**, see Han, J., *TCSI March 2021 1012-1022*
- Chang, F.**, see Jhang, C., *TCSI May 2021 1773-1786*
- Chang, L.**, see Li, S., *TCSI April 2021 1543-1552*
- Chang, M.**, see Jhang, C., *TCSI May 2021 1773-1786*
- Chang, M.F.**, see Tang, A., *TCSI Sept. 2021 3941-3950*
- Chang, T.**, see Wang, X., *TCSI Jan. 2021 264-274*
- Chang, X.**, Pan, H., Lin, W., and Gao, H., A Mixed-Pruning Based Framework for Embedded Convolutional Neural Network Acceleration; *TCSI April 2021 1706-1715*
- Chang, Y.**, see Tsai, K., *TCSI Aug. 2021 3328-3336*
- Chaudhary, G.**, see Jeong, Y., *TCSI June 2021 2382-2392*
- Chauhan, Y.S.**, see Paim, G., *TCSI April 2021 1481-1492*
- Chauhan, Y.S.**, see Salamin, S., *TCSI Oct. 2021 4299-4309*
- Chawa, M.M.A.**, Picos, R., and Tetzlaff, R., A Compact Memristor Model for Neuromorphic ReRAM Devices in Flux-Charge Space; *TCSI Sept. 2021 3631-3641*
- Chen, C.**, see Liu, T., *TCSI Feb. 2021 904-917*
- Chen, C.**, see Cao, Y., *TCSI Feb. 2021 641-654*
- Chen, C.**, see Zhu, Y., *TCSI March 2021 1146-1159*
- Chen, C.**, see Huang, M., *TCSI April 2021 1659-1670*
- Chen, C.**, see Kuo, S., *TCSI July 2021 2890-2899*
- Chen, C.**, see Lin, H., *TCSI Aug. 2021 3397-3410*
- Chen, D.**, see Liu, N., *TCSI Sept. 2021 3551-3561*
- Chen, G.**, see Zhang, S., *TCSI Dec. 2021 4945-4956*
- Chen, H.**, Yang, H., Song, W., Lu, Z., Fu, Y., Li, L., and Yu, Z., Symmetric-Mapping LUT-Based Method and Architecture for Computing XY-Like Functions; *TCSI March 2021 1231-1244*
- Chen, H.**, Yu, Z., Zhang, Y., Lu, Z., Fu, Y., and Li, L., Low-Complexity High-Precision Method and Architecture for Computing the Logarithm of Complex Numbers; *TCSI Aug. 2021 3293-3304*
- Chen, J.**, see Yin, N., *TCSI Jan. 2021 311-321*
- Chen, J.**, Yue, D., Dou, C., Li, Y., Hancke, G.P., Weng, S., Guerrero, J.M., and Ding, X., Distributed Control of Multi-Functional Grid-Tied Inverters for Power Quality Improvement; *TCSI Feb. 2021 918-928*
- Chen, J.**, see Xia, Z., *TCSI Feb. 2021 728-740*
- Chen, J.**, Zhao, W., Wang, Y., and Ha, Y., Analysis and Optimization Strategies Toward Reliable and High-Speed 6T Compute SRAM; *TCSI April 2021 1520-1531*
- Chen, J.**, see Zhu, Y., *TCSI Dec. 2021 5007-5017*
- Chen, K.**, see Tan, T., *TCSI March 2021 1354-1365*
- Chen, K.**, Garrett, J., Peng, K., Hulfachor, R., and Onabajo, M., Buck Circuit Design With Pseudo-Constant Frequency and Constant On-Time for High Current Point-of-Load Regulation; *TCSI Oct. 2021 4062-4075*
- Chen, K.**, see Shi, B., *TCSI Nov. 2021 4746-4759*
- Chen, L.**, Liu, M., Shi, Y., Zhang, H., and Zhao, E., Adaptive Fault Estimation for Unmanned Surface Vessels With a Neural Network Observer Approach; *TCSI Jan. 2021 416-425*
- Chen, L.**, see Zhang, Y., *TCSI March 2021 1193-1205*
- Chen, L.**, see Zhang, B., *TCSI April 2021 1532-1542*
- Chen, L.**, Ge, Z., Sun, Y., Hamilton, T.J., and Zhu, X., A 90-GHz Asymmetrical Single-Pole Double-Throw Switch With >19.5-dBm 1-dB Compression Point in Transmission Mode Using 55-nm Bulk CMOS Technology; *TCSI Nov. 2021 4616-4625*
- Chen, L.**, see Chen, L., *TCSI Nov. 2021 4616-4625*
- Chen, M.**, Xu, S., Huang, L., Sun, W., and Shi, L., A Novel Digital Control Method of Primary-Side Regulated Flyback With Active Clamping Technique; *TCSI Feb. 2021 950-962*
- Chen, M.**, Wang, H., and Liu, X., Adaptive Practical Fixed-Time Tracking Control With Prescribed Boundary Constraints; *TCSI April 2021 1716-1726*
- Chen, M.**, see Bao, H., *TCSI Nov. 2021 4534-4544*
- Chen, P.**, Yu, L., and Zhang, D., Event-Triggered Sliding Mode Control of Power Systems With Communication Delay and Sensor Faults; *TCSI Feb. 2021 797-807*
- Chen, P.**, see Chen, W., *TCSI April 2021 1493-1506*
- Chen, P.**, see Zhang, F., *TCSI May 2021 1855-1868*
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- Colter, Z.**, see Fayazi, M., *TCSI June 2021 2418-2431*
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**Ellinger, F.**, see Ferschischi, A., *TCSI June 2021 2368-2381*  
**Emmei, J.**, see Liu, B., *TCSI Feb. 2021 603-616*  
**Eshraghian, J.K.**, see Wang, X., *TCSI Jan. 2021 264-274*  
**Eshraghian, J.K.**, see Kang, S.M., *TCSI Dec. 2021 4837-4850*  
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**Euzzor, S.**, see Meucci, R., *TCSI July 2021 3023-3030*  
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**Feng, Z.**, see Bi, X., *TCSI Nov. 2021 4589-4602*

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**Fuller, E.**, see Fragasse, R., *TCSI May 2021 1827-1840*  
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**Gao, P.**, see Wu, J., *TCSI May 2021 2271-2279*  
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**Gao, Y.**, see Lin, X., *TCSI Sept. 2021 3890-3900*  
**Gaquiere, C.**, see Margalef-Rovira, M., *TCSI Aug. 2021 3170-3183*  
**Garcia, G.**, see Martinez-Trevino, B.A., *TCSI Jan. 2021 524-535*  
**Garibotti, R.**, see Abich, G., *TCSI Nov. 2021 4772-4782*  
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**Geurts, M.**, see Anjos, E.V.P., *TCSI Sept. 2021 3927-3940*  
**Ghafarian, H.**, see Wittenhagen, E., *TCSI Jan. 2021 57-66*  
**Ghaffari, F.**, see Cui, H., *TCSI Feb. 2021 879-891*  
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- Grebogi, C.**, see Tian, K., *TCSI July 2021 3012-3022*
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- Keren, R.**, see Regev, D., *TCSI Dec. 2021* 5168-5181
- Kermani, M.M.**, see Anastasova, M., *TCSI Oct. 2021* 4129-4141
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- Lu, J.**, see Li, X., *TCSI Oct. 2021* 4268-4277
- Lu, K.**, see Naseri, F., *TCSI March 2021* 1308-1318
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- Lu, L.**, see Li, X., *TCSI Oct. 2021* 4268-4277
- Lu, R.**, see Ye, Y., *TCSI Sept. 2021* 3881-3889
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- Luo, X.**, see Zhou, J., *TCSI June 2021* 2457-2469
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- Mak, P.**, see Zhao, X., *TCSI Jan. 2021* 89-102
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- Musolino, F.**, see Rubino, R., *TCSI June 2021 2494-2507*
- Mutlu, S.**, see Kara, I., *TCSI Jan. 2021 210-223*

N

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- Naderi, A.**, see Ghanbarpour, M., *TCSI Dec. 2021 5072-5080*
- Nagulu, A.**, see Tymchenko, M., *TCSI Feb. 2021 569-580*
- Nakashima, Y.**, see Tran, T.H., *TCSI Oct. 2021 4245-4258*
- Nakata, K.**, see Liu, B., *TCSI Feb. 2021 603-616*
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- Nikolic, B.**, see Han, J., *TCSI March 2021* 1012-1022
- Nili, H.**, see Fahimi, Z., *TCSI Oct. 2021* 4090-4101
- Ning, N.**, see Li, J., *TCSI March 2021* 1102-1113
- Niu, R.**, see Liu, C., *TCSI Sept. 2021* 3772-3783
- Nonis, R.**, see Biccario, G.E., *TCSI Nov. 2021* 4626-4635
- Nowak, E.**, see Laborieux, A., *TCSI Jan. 2021* 138-147

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- O'Connor, I.**, see Perodou, A., *TCSI Jan. 2021* 161-174
- Occello, O.**, see Margalef-Rovira, M., *TCSI Aug. 2021* 3170-3183
- Ochs, K.**, Michaelis, D., and Jenderny, S., Synthesis of an Equivalent Circuit for Spike-Timing-Dependent Axon Growth: What Fires Together Now Really Wires Together; *TCSI Sept. 2021* 3656-3667
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- Okada, K.**, see Sun, Z., *TCSI Jan. 2021* 196-209
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- Omori, T.**, see Shiba, K., *TCSI Feb. 2021* 692-703
- Onabajo, M.**, see Chen, K., *TCSI Oct. 2021* 4062-4075
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- Oreggioni, J.**, see Cabrera, C., *TCSI Aug. 2021* 3232-3241
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- Pano, V.**, see Kuttappa, R., *TCSI April 2021* 1636-1645
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- Ronningen, T.J.**, see Fragasse, R., *TCSI May 2021 1827-1840*
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- Zhao, E.**, see Chen, L., *TCSI Jan. 2021 416-425*
- Zhao, J.**, see Qu, H., *TCSI June 2021 2604-2615*
- Zhao, J.**, see Shi, J., *TCSI Sept. 2021 3846-3856*
- Zhao, J.**, see Huang, Y., *TCSI Oct. 2021 4349-4359*
- Zhao, M.**, Peng, C., and Tian, E., Finite-Time and Fixed-Time Bipartite Consensus Tracking of Multi-Agent Systems With Weighted Antagonistic Interactions; *TCSI Jan. 2021 426-433*
- Zhao, R.**, see Wu, J., *TCSI June 2021 2522-2534*
- Zhao, W.**, see Chen, J., *TCSI April 2021 1520-1531*
- Zhao, X.**, Chen, Y., Mak, P., and Martins, R.P., A 0.14-to-0.29-pJ/bit 14-GBaud/s Trimodal (NRZ/PAM-4/PAM-8) Half-Rate Bang-Bang Clock and Data Recovery (BBCDR) Circuit in 28-nm CMOS ; *TCSI Jan. 2021 89-102*
- Zhao, X.**, see Wei, B., *TCSI Oct. 2021 4381-4392*

Zhao, Y., *see* Cao, Y., *TCSI Feb. 2021 641-654*  
 Zhao, Y., *see* Han, Y., *TCSI July 2021 2962-2975*  
 Zhao, Y., *see* Jiang, Y., *TCSI Dec. 2021 4935-4944*  
 Zhao, Z., *see* Tan, T., *TCSI March 2021 1354-1365*  
 Zhao, Z., *see* Zhu, Q., *TCSI Sept. 2021 3951-3964*  
 Zhao, Z., *see* Shi, B., *TCSI Nov. 2021 4746-4759*  
 Zheng, J., *see* Zhang, S., *TCSI Dec. 2021 4945-4956*  
 Zheng, L., *see* Huang, B., *TCSI Nov. 2021 4672-4685*  
 Zheng, N., *see* Li, B., *TCSI Aug. 2021 3279-3292*  
 Zheng, S.Y., *see* Wang, S.H., *TCSI Nov. 2021 4556-4565*  
 Zheng, W.X., *see* Qi, W., *TCSI Feb. 2021 786-796*  
 Zheng, W.X., *see* Wang, Y., *TCSI Aug. 2021 3474-3484*  
 Zheng, W.X., *see* Yao, X., *TCSI Sept. 2021 3836-3845*  
 Zheng, Y., *see* Li, S., *TCSI Aug. 2021 3460-3473*  
 Zheng, Z., *see* Zhang, Y., *TCSI March 2021 1193-1205*  
 Zhong, C., *see* Duan, N., *TCSI April 2021 1610-1623*  
 Zhong, J., Zhao, D., and You, X., A Ku-Band CMOS Power Amplifier With Series-Shunt LC Notch Filter for Satellite Communications; *TCSI May 2021 1869-1880*  
 Zhong, J., *see* Zhao, D., *TCSI Oct. 2021 3977-3990*  
 Zhong, J., *see* Zhao, D., *TCSI Oct. 2021 4413*  
 Zhong, S., *see* Hua, L., *TCSI April 2021 1599-1609*  
 Zhou, C., *see* Lin, H., *TCSI Aug. 2021 3397-3410*  
 Zhou, G., *see* Zhou, Y., *TCSI Dec. 2021 4851-4861*  
 Zhou, J., *see* Li, S., *TCSI April 2021 1543-1552*  
 Zhou, J., Qian, H.J., and Luo, X., High-Resolution Wideband Vector-Sum Digital Phase Shifter With On-Chip Phase Linearity Enhancement Technology; *TCSI June 2021 2457-2469*  
 Zhou, P., *see* Wang, X., *TCSI Jan. 2021 264-274*  
 Zhou, P., *see* Kang, S.M., *TCSI Dec. 2021 4837-4850*  
 Zhou, Y., Hu, X., Wang, L., Zhou, G., and Duan, S., QuantBayes: Weight Optimization for Memristive Neural Networks via Quantization-Aware Bayesian Inference; *TCSI Dec. 2021 4851-4861*  
 Zhu, A., *see* Zhang, F., *TCSI May 2021 1855-1868*  
 Zhu, G., *see* Gong, C., *TCSI Aug. 2021 3422-3435*  
 Zhu, H., *see* Hua, L., *TCSI April 2021 1599-1609*  
 Zhu, M., *see* Zhu, Y., *TCSI March 2021 1146-1159*  
 Zhu, Q., *see* Zhang, G., *TCSI Sept. 2021 3808-3821*  
 Zhu, Q., Zhao, Z., Mao, K., Chen, X., Liu, W., and Wu, Q., A Real-Time Hardware Emulator for 3D Non-Stationary U2V Channels; *TCSI Sept. 2021 3951-3964*  
 Zhu, S., *see* Wu, A., *TCSI Nov. 2021 4508-4519*  
 Zhu, W., *see* Zhu, Y., *TCSI March 2021 1146-1159*  
 Zhu, X., *see* Chen, L., *TCSI Nov. 2021 4616-4625*  
 Zhu, X., *see* Kang, S.M., *TCSI Dec. 2021 4837-4850*  
 Zhu, Y., *see* Jiang, W., *TCSI Feb. 2021 557-568*  
 Zhu, Y., Zhu, M., Yang, B., Zhu, W., Deng, C., Chen, C., Wei, S., and Liu, L., LWRpro: An Energy-Efficient Configurable Crypto-Processor for Module-LWR; *TCSI March 2021 1146-1159*  
 Zhu, Y., *see* Cui, Y., *TCSI Oct. 2021 4360-4370*  
 Zhu, Y., Wang, J., Hong, J., Chen, J., and Wu, W., Two- and Three-Way Filtering Power Dividers With Harmonic Suppression Using Triangle Patch Resonator; *TCSI Dec. 2021 5007-5017*  
 Zhu, Z., Hu, B., Guan, Z., Zhang, D., and Li, T., Observer-Based Bipartite Containment Control for Singular Multi-Agent Systems Over Signed Digraphs; *TCSI Jan. 2021 444-457*  
 Zhu, Z., and Lu, J., LMI-Based Robust Stability Analysis of Discrete-Time Fractional-Order Systems With Interval Uncertainties; *TCSI April 2021 1671-1680*  
 Zokaei, A., *see* Truhachev, D., *TCSI Jan. 2021 496-509*  
 Zolkov, E., *see* Regev, D., *TCSI Dec. 2021 5168-5181*  
 Zong, G., *see* Qi, W., *TCSI Feb. 2021 786-796*  
 Zong, G., *see* Qi, W., *TCSI June 2021 2665-2674*  
 Zoppo, G., Korkmaz, A., Marrone, F., Palermo, S., Corinto, F., and Williams, R.S., Analog Solutions of Discrete Markov Chains via Memristor Crossbars; *TCSI Dec. 2021 4910-4923*  
 Zou, X., *see* Lu, J., *TCSI July 2021 2976-2985*

Zou, X., *see* Min, F., *TCSI Oct. 2021 4207-4220*  
 Zou, Z., *see* Huang, B., *TCSI Nov. 2021 4672-4685*

## Subject Index

### Numeric

#### 1/f noise

A  $2\epsilon_{\text{rms}}$  Temporal Noise CMOS Image Sensor With In-Pixel 1/f Noise Reduction and Conversion Gain Modulation for Low Light Imaging. *Priyadarshini, N., +, TCSI Jan. 2021 185-195*

A Capacitively Coupled CT  $\Delta \Sigma$  With Chopping Artifacts Rejection for Sensor Readout ICs. *Lim, C., +, TCSI Aug. 2021 3242-3253*

#### 5G mobile communication

A 7.8–13.6 pJ/b Ultra-Low Latency and Reconfigurable Neural Network-Assisted Polar Decoder With Multi-Code Length Support. *Teng, C., +, TCSI May 2021 1956-1965*

A Compact 26.5–29.5-GHz LNA-Phase-Shifter Combo With 360° Continuous Phase Tuning Based on All-Pass Networks for Millimeter-Wave 5G. *Anjos, E.V.P., +, TCSI Sept. 2021 3927-3940*

Design of High-Performance and Area-Efficient Decoder for 5G LDPC Codes. *Cui, H., +, TCSI Feb. 2021 879-891*

Gradient-Adaptive Spline-Interpolated LUT Methods for Low-Complexity Digital Predistortion. *Campo, P.P., +, TCSI Jan. 2021 336-349*

High-Speed LDPC Decoders Towards 1 Tb/s. *Li, M., +, TCSI May 2021 2224-2233*

#### III-V semiconductors

A 2.4–6 GHz Broadband GaN Power Amplifier for 802.11ax Application. *Liu, B., +, TCSI June 2021 2404-2417*

A 3-Phase Resonant Switched-Capacitor Converter for Data Center 48-V Rack Power Distribution. *Wang, C., +, TCSI June 2021 2714-2724*

A High-Temperature Model for GaN-HEMT Transistors and its Application to Resistive Mixer Design. *Salem, J.M., +, TCSI Feb. 2021 581-591*

A Novel Digital Control Method of Primary-Side Regulated Flyback With Active Clamping Technique. *Chen, M., +, TCSI Feb. 2021 950-962*

Dual Input Digitally Controlled Broadband Three-Stage Doherty Power Amplifier With Back-Off Reconfigurability. *Barthwal, A., +, TCSI April 2021 1421-1431*

## A

#### Accelerometers

Noise Analysis of Charge-Balanced Readout Circuits for MEMS Accelerometers. *Lanniel, A., +, TCSI Jan. 2021 175-184*

#### Acoustic transducers

22 dB Signal-to-Noise Ratio Real-Time Proton Sound Detector for Experimental Beam Range Verification. *Vallicelli, E.A., +, TCSI Jan. 2021 3-13*

#### Action potentials

Neuromorphic Dynamics of Chua Corsage Memristor. *Jin, P., +, TCSI Nov. 2021 4419-4432*

#### Active antenna arrays

Gradient-Adaptive Spline-Interpolated LUT Methods for Low-Complexity Digital Predistortion. *Campo, P.P., +, TCSI Jan. 2021 336-349*

#### Active filters

A Fractional Order Notch Filter to Compensate the Attenuation-Loss Due to Change in Order of the Circuit. *Mohapatra, A.S., +, TCSI Feb. 2021 655-666*

Synthesis of High-Order Continuously Tunable Low-Pass Active-R Filters. *Sanabria-Borbon, A.C., +, TCSI May 2021 1841-1854*

#### Active networks

Active Circuits With Diodes: Topological Conditions Sufficient to Determine the State of a Diode. *Ciampa, M., TCSI Jan. 2021 35-44*

Analysis and Design of Lossy Capacitive Over-Neutralization Technique for Amplifiers Operating Near  $f_{\text{MAX}}$ . *Simic, D., +, TCSI May 2021 1945-1955*

#### Active noise control

Low Delay Short Word Length Sigma Delta Active Noise Control. *Lopes, P.A.C., +, TCSI Sept. 2021 3746-3757*

**Actuators**

- Adaptive Fault Estimation for Unmanned Surface Vessels With a Neural Network Observer Approach. *Chen, L., +, TCSI Jan. 2021 416-425*
- Asynchronous Event-Triggered Sliding Mode Control for Semi-Markov Jump Systems Within a Finite-Time Interval. *Wang, J., +, TCSI Jan. 2021 458-468*
- Distributed Fault-Tolerant Consensus Tracking Control of Multi-Agent Systems Under Fixed and Switching Topologies. *Liu, C., +, TCSI April 2021 1646-1658*
- Novel Finite-Time Reliable Control Design for Memristor-Based Inertial Neural Networks With Mixed Time-Varying Delays. *Hua, L., +, TCSI April 2021 1599-1609*
- Variable Cut-Off Frequency Observer-Based Positioning for Ball-Beam Systems Without Velocity and Current Feedback Considering Actuator Dynamics. *Kim, Y., +, TCSI Jan. 2021 396-405*

**Adaptation models**

- Accurately Modeling Zero-Bias Diode-Based RF Power Harvesters With Wide Adaptability to Frequency and Power. *Guo, L., +, TCSI Dec. 2021 5194-5205*
- An Efficient Digital Realization of Retinal Light Adaptation in Cone Photoreceptors. *Ghanbarpour, M., +, TCSI Dec. 2021 5072-5080*

**Adaptive control**

- Adaptive Cooperative Terminal Sliding Mode Control for Distributed Energy Storage Systems. *Yang, Y., +, TCSI Jan. 2021 434-443*
- Adaptive Fault Estimation for Unmanned Surface Vessels With a Neural Network Observer Approach. *Chen, L., +, TCSI Jan. 2021 416-425*
- Adaptive Fuzzy Output-Feedback Control Design for a Class of  $p$ -Norm Stochastic Nonlinear Systems With Output Constraints. *Fang, L., +, TCSI June 2021 2626-2638*
- Adaptive Practical Fixed-Time Tracking Control With Prescribed Boundary Constraints. *Chen, M., +, TCSI April 2021 1716-1726*
- An Approach to Estimate Lithium-Ion Battery State of Charge Based on Adaptive Lyapunov Super Twisting Observer. *Sethia, G., +, TCSI March 2021 1319-1329*
- Distributed Adaptive Finite-Time Compensation Control for UAV Swarm With Uncertain Disturbances. *Zhang, J., +, TCSI Feb. 2021 829-841*
- Distributed Adaptive Resilient Formation Control of Uncertain Nonholonomic Mobile Robots Under Deception Attacks. *Wang, W., +, TCSI Sept. 2021 3822-3835*
- Distributed Fault-Tolerant Consensus Tracking Control of Multi-Agent Systems Under Fixed and Switching Topologies. *Liu, C., +, TCSI April 2021 1646-1658*
- Dynamic Event-Triggered Tracking Control for a Class of  $p$ -Normal Nonlinear Systems. *Shu, F., +, TCSI Feb. 2021 808-817*
- Dynamic Triggering Mechanisms for Distributed Adaptive Synchronization Control and Its Application to Circuit Systems. *Xu, Y., +, TCSI May 2021 2246-2256*
- Event-Triggered Adaptive Fuzzy Fixed-Time Tracking Control for a Class of Nonstrict-Feedback Nonlinear Systems. *Wang, H., +, TCSI July 2021 3058-3068*
- Event-Triggered Optimized Control for Nonlinear Delayed Stochastic Systems. *Zhang, G., +, TCSI Sept. 2021 3808-3821*
- Event-Triggered Sliding Mode Control of Power Systems With Communication Delay and Sensor Faults. *Chen, P., +, TCSI Feb. 2021 797-807*
- Exponential Synchronization of Complex Networks: An Intermittent Adaptive Event-Triggered Control Strategy. *Wu, Y., +, TCSI Nov. 2021 4735-4745*
- Fixed-Time Fault-Tolerant Formation Control for Heterogeneous Multi-Agent Systems With Parameter Uncertainties and Disturbances. *Cheng, W., +, TCSI May 2021 2121-2133*
- Neural Network-Based Distributed Adaptive Pre-Assigned Finite-Time Consensus of Multiple TCP/AQM Networks. *Wang, C., +, TCSI Jan. 2021 387-395*
- Observer-Based Adaptive Neural Output Feedback Constraint Controller Design for Switched Systems Under Average Dwell Time. *Liu, L., +, TCSI Sept. 2021 3901-3912*

- Output Feedback Predefined-Time Bipartite Consensus Control for High-Order Nonlinear Multiagent Systems. *Li, K., +, TCSI July 2021 3069-3078*
- Predefined Finite-Time Output Containment of Nonlinear Multi-Agent Systems With Leaders of Unknown Inputs. *Wang, Q., +, TCSI Aug. 2021 3436-3448*
- Robust  $H_\infty$  Adaptive Sliding Mode Fault Tolerant Control for T-S Fuzzy Fractional Order Systems With Mismatched Disturbances. *Zhang, X., +, TCSI March 2021 1297-1307*

**Adaptive filters**

- Centralized System Identification of Multi-Rail Power Converter Systems Using an Iterative Decimation Approach. *Xu, J., +, TCSI Aug. 2021 3520-3533*

**Adaptive systems**

- Adaptive Fuzzy Fast Finite-Time Dynamic Surface Tracking Control for Nonlinear Systems. *Wang, H., +, TCSI Oct. 2021 4337-4348*

**Adders**

- A Reconfigurable Passive Mixer-Based Sub-GHz Receiver Front-End for Fast Spectrum Sensing Functionality. *Bae, S., +, TCSI Feb. 2021 892-903*
- Accuracy-Configurable Radix-4 Adder With a Dynamic Output Modification Scheme. *Tsai, K., +, TCSI Aug. 2021 3328-3336*
- From MOSFETs to Ambipolar Transistors: Standard Cell Synthesis for the Planar RFET Technology. *Reuter, M., +, TCSI Jan. 2021 114-125*
- Neural Synaptic Plasticity-Inspired Computing: A High Computing Efficient Deep Convolutional Neural Network Accelerator. *Xia, Z., +, TCSI Feb. 2021 728-740*
- TD-SRAM: Time-Domain-Based In-Memory Computing Macro for Binary Neural Networks. *Song, J., +, TCSI Aug. 2021 3377-3387*
- Time-Domain Computing in Memory Using Spintronics for Energy-Efficient Convolutional Neural Network. *Zhang, Y., +, TCSI March 2021 1193-1205*

**Admittance**

- Neuromorphic Dynamics of Chua Corsage Memristor. *Jin, P., +, TCSI Nov. 2021 4419-4432*

**Aerospace instrumentation**

- Soft-Error-Immune Read-Stability-Improved SRAM for Multi-Node Upset Tolerance in Space Applications. *Pal, S., +, TCSI Aug. 2021 3317-3327*

**Aging**

- SymBIST*: Symmetry-Based Analog and Mixed-Signal Built-In Self-Test for Functional Safety. *Pavlidis, A., +, TCSI June 2021 2580-2593*
- Automated Design Approximation to Overcome Circuit Aging. *Balaskas, K., +, TCSI Nov. 2021 4710-4721*
- Machine Learning for On-the-Fly Reliability-Aware Cell Library Characterization. *Klemme, F., +, TCSI June 2021 2569-2579*

**AI chips**

- Challenges and Trends of SRAM-Based Computing-In-Memory for AI Edge Devices. *Jhang, C., +, TCSI May 2021 1773-1786*
- Implementation of an On-Chip Learning Neural Network IC Using Highly Linear Charge Trap Device. *Choi, J., +, TCSI July 2021 2863-2875*

**Air pollution measurement**

- A Wide Dynamic Range Multi-Sensor ROIC for Portable Environmental Monitoring Systems With Two-Step Self-Optimization Schemes. *Choi, S., +, TCSI June 2021 2432-2443*

**Air quality**

- A Wide Dynamic Range Multi-Sensor ROIC for Portable Environmental Monitoring Systems With Two-Step Self-Optimization Schemes. *Choi, S., +, TCSI June 2021 2432-2443*

**Aircraft control**

- Fixed-Time Fault-Tolerant Formation Control for Heterogeneous Multi-Agent Systems With Parameter Uncertainties and Disturbances. *Cheng, W., +, TCSI May 2021 2121-2133*

**Algebraic codes**

- Fast Nested Key Equation Solvers for Generalized Interleaved Decoder. *Xie, Z., +, TCSI Jan. 2021 483-495*

**All-pass filters**

- High-Resolution Wideband Vector-Sum Digital Phase Shifter With On-Chip Phase Linearity Enhancement Technology. *Zhou, J., +, TCSI June 2021 2457-2469*

**Amplifiers**

- A 0.59-mW 78.7-dB SNDR 2-MHz Bandwidth Active-RC Delta-Sigma Modulator With Relaxed and Reduced Amplifiers. *Wang, H.*, +, *TCSI March 2021 1114-1122*
- A 91.0-dB SFDR Single-Coarse Dual-Fine Pipelined-SAR ADC With Split-Based Background Calibration in 28-nm CMOS. *Cao, Y.*, +, *TCSI Feb. 2021 641-654*
- A Transimpedance-to-Noise Optimized Analog Front-End With High PSRR for Pulsed ToF Lidar Receivers. *Khoemi, F.*, +, *TCSI Sept. 2021 3642-3655*
- Analysis and Optimization Strategies Toward Reliable and High-Speed 6T Compute SRAM. *Chen, J.*, +, *TCSI April 2021 1520-1531*
- Body Biased Sense Amplifier With Auto-Offset Mitigation for Low-Voltage SRAMs. *Patel, D.*, +, *TCSI Aug. 2021 3265-3278*
- Dynamic Read  $V_{\text{MIN}}$  and Yield Estimation for Nanoscale SRAMs. *Gupta, S.*, +, *TCSI March 2021 1171-1182*
- Fully Integrated Analog Machine Learning Classifier Using Custom Activation Function for Low Resolution Image Classification. *Tannirkulam Chandrasekaran, S.*, +, *TCSI March 2021 1023-1033*
- High-Resolution Wideband Vector-Sum Digital Phase Shifter With On-Chip Phase Linearity Enhancement Technology. *Zhou, J.*, +, *TCSI June 2021 2457-2469*
- Imbalance-Tolerant Bit-Line Sense Amplifier for Dummy-Less Open Bit-Line Scheme in DRAM. *Kim, S.M.*, +, *TCSI June 2021 2546-2554*
- Implementation of Ternary Weights With Resistive RAM Using a Single Sense Operation Per Synapse. *Laborieux, A.*, +, *TCSI Jan. 2021 138-147*
- Power Bound Analysis of a Two-Step MASH Incremental ADC Based on Noise-Shaping SAR ADCs. *Akbari, M.*, +, *TCSI Aug. 2021 3133-3146*
- Radiation Hardened 12T SRAM With Crossbar-Based Peripheral Circuit in 28nm CMOS Technology. *Han, Y.*, +, *TCSI July 2021 2962-2975*
- Self-Referenced Single-Ended Resistance Monitoring Write Termination Scheme for STT-RAM Write Energy Reduction. *Choi, S.*, +, *TCSI June 2021 2481-2493*
- Synthesis of High-Order Continuously Tunable Low-Pass Active-R Filters. *Sanabria-Borbon, A.C.*, +, *TCSI May 2021 1841-1854*

**Amplitude estimation**

- A Double-Memristor Hyperchaotic Oscillator With Complete Amplitude Control. *Jiang, Y.*, +, *TCSI Dec. 2021 4935-4944*

**Analog circuits**

- A Fast and Fully Parallel Analog CMOS Solver for Nonlinear PDEs. *Malavipathirana, H.*, +, *TCSI Aug. 2021 3363-3376*
- Experimental Study of Fractional-Order RC Circuit Model Using the Caputo and Caputo-Fabrizio Derivatives. *Lin, D.*, +, *TCSI March 2021 1034-1044*

**Analog integrated circuits**

- A Fast and Fully Parallel Analog CMOS Solver for Nonlinear PDEs. *Malavipathirana, H.*, +, *TCSI Aug. 2021 3363-3376*
- Continuous-Time, Configurable Analog Linear System Solutions With Transconductance Amplifiers. *Hasler, J.*, +, *TCSI Feb. 2021 765-775*
- Power-Speed Trade-Offs in Design of Scaled FET Circuits Using  $C/I_{\text{DS}}$  Methodology. *Tajalli, A.*, *TCSI Feb. 2021 631-640*

**Analog multipliers**

- A Fast and Fully Parallel Analog CMOS Solver for Nonlinear PDEs. *Malavipathirana, H.*, +, *TCSI Aug. 2021 3363-3376*

**Analog processing circuits**

- A Fractional Order Notch Filter to Compensate the Attenuation-Loss Due to Change in Order of the Circuit. *Mohapatra, A.S.*, +, *TCSI Feb. 2021 655-666*

**Analog-digital conversion**

- SymBIST*: Symmetry-Based Analog and Mixed-Signal Built-In Self-Test for Functional Safety. *Pavlidis, A.*, +, *TCSI June 2021 2580-2593*
- A 7-bit 2 GS/s Time-Interleaved SAR ADC With Timing Skew Calibration Based on Current Integrating Sampler. *Jiang, W.*, +, *TCSI Feb. 2021 557-568*
- A 91.0-dB SFDR Single-Coarse Dual-Fine Pipelined-SAR ADC With Split-Based Background Calibration in 28-nm CMOS. *Cao, Y.*, +, *TCSI Feb. 2021 641-654*
- A Foreground Calibration for M-Channel Time-Interleaved Analog-to-Digital Converters Based on Genetic Algorithm. *Tavares, Y.A.*, +, *TCSI April 2021 1444-1457*

- A Galvanic Isolated Amplifier Based on CMOS Integrated Hall-Effect Sensors. *Mirfakhraei, S.S.*, +, *TCSI April 2021 1388-1397*
- A Logic-Compatible eDRAM Compute-In-Memory With Embedded ADCs for Processing Neural Networks. *Yu, C.*, +, *TCSI Feb. 2021 667-679*
- A Multi-Step Incremental Analog-to-Digital Converter With a Single Opamp and Two-Capacitor SAR Extended Counting. *Kuo, S.*, +, *TCSI July 2021 2890-2899*
- A Scalable 128-Channel, Time-Multiplexed Potentiostat for Parallel Electrochemical Experiments. *Molderez, T.R.*, +, *TCSI March 2021 1068-1079*
- A Time-Based Pipelined ADC Using Integrate-and-Fire Multiplying-DAC. *Ryu, S.*, +, *TCSI July 2021 2876-2889*
- A Wide Dynamic Range Multi-Sensor ROIC for Portable Environmental Monitoring Systems With Two-Step Self-Optimization Schemes. *Choi, S.*, +, *TCSI June 2021 2432-2443*
- An 8-Bit 800 MS/s Loop-Unrolled SAR ADC With Common-Mode Adaptive Background Offset Calibration in 28 nm FDSOI. *Akkaya, A.*, +, *TCSI July 2021 2766-2774*
- An 800 nW Switched-Capacitor Feature Extraction Filterbank for Sound Classification. *Villamizar, D.A.*, +, *TCSI April 2021 1578-1588*
- Analysis and Comparison of Readout Architectures and Analog-to-Digital Converters for 3D-Stacked CMOS Image Sensors. *Callens, N.*, +, *TCSI Aug. 2021 3117-3130*
- Asynchronous Event-Driven Clocking and Control in Pipelined ADCs. *Hershberg, B.*, +, *TCSI July 2021 2813-2826*
- Broadband Mismatch Calibration for Time-Interleaved ADC Based on Linear Frequency Modulated Signal. *Peng, X.*, +, *TCSI Sept. 2021 3621-3630*
- Continuous-Time Incremental Delta-Sigma Modulators With FIR Feedback. *Pavan, S.*, +, *TCSI Aug. 2021 3222-3231*
- Delta-Sigma FDC Enhancements for FDC-Based Digital Fractional- $N$  PLLs. *Alvarez-Fontecilla, E.*, +, *TCSI March 2021 965-974*
- Digital Non-Linearity Calibration for ADCs With Redundancy Using a New LUT Approach. *Gines, A.*, +, *TCSI Aug. 2021 3197-3210*
- Guest Editorial Special Issue on the IEEE International NEWCAS Conference 2020. *David, J.*, +, *TCSI Aug. 2021 3131-3132*
- Jitter-Power Trade-Offs in PLLs. *Razavi, B.*, *TCSI April 2021 1381-1387*
- LAYGO: A Template-and-Grid-Based Layout Generation Engine for Advanced CMOS Technologies. *Han, J.*, +, *TCSI March 2021 1012-1022*
- MF-Net: Compute-In-Memory SRAM for Multibit Precision Inference Using Memory-Immersed Data Conversion and Multiplication-Free Operators. *Nasrin, S.*, +, *TCSI May 2021 1966-1978*
- Power Bound Analysis of a Two-Step MASH Incremental ADC Based on Noise-Shaping SAR ADCs. *Akbari, M.*, +, *TCSI Aug. 2021 3133-3146*
- SRIF: Scalable and Reliable Integrate and Fire Circuit ADC for Memristor-Based CIM Architectures. *Singh, A.*, +, *TCSI May 2021 1917-1930*
- The Analog Behavior of Pseudo Digital Ring Oscillators Used in VCO ADCs. *Borgmans, J.*, +, *TCSI July 2021 2827-2840*
- Walsh-Hadamard-Based Orthogonal Sampling Technique for Parallel Neural Recording Systems. *Ranjandish, R.*, +, *TCSI April 2021 1740-1749*

**Analytical models**

- Dynamic Write  $V_{\text{MIN}}$  and Yield Estimation for Nanoscale SRAMs. *Gupta, S.*, +, *TCSI Dec. 2021 5038-5048*

**Angular velocity control**

- Predictive Control of Low-Cost Three-Phase Four-Switch Inverter-Fed Drives for Brushless DC Motor Applications. *Nasari, F.*, +, *TCSI March 2021 1308-1318*

**Annealing**

- Annealing Processing Architecture of 28-nm CMOS Chip for Ising Model With 512 Fully Connected Spins. *Iimura, R.*, +, *TCSI Dec. 2021 5061-5071*

**Antenna arrays**

- A Real-Time Hardware Emulator for 3D Non-Stationary U2V Channels. *Zhu, Q.*, +, *TCSI Sept. 2021 3951-3964*
- Fixed-Complexity Tree Search Schemes for Detecting Generalized Spatially Modulated Signals: Algorithms and Hardware Architectures. *Liu, T.*, +, *TCSI Feb. 2021 904-917*

**Antenna phased arrays**

- Fast Beam Training With True-Time-Delay Arrays in Wideband Millimeter-Wave Systems. *Boljanovic, V.*, +, *TCSI April 2021 1727-1739*



**Application specific integrated circuits**

An Optimized Radiation Tolerant Baseline Correction Filter for HEP Using AI Methodologies. *Sanches, B.*, +, *TCSI May 2021 1789-1799*

Low-Latency Hardware Accelerator for Improved Engle-Granger Cointegration in Pairs Trading. *Liang, S.*, +, *TCSI July 2021 2911-2924*

**Approximate computing**

LIMITA: Logic-in-Memory Primitives for Imprecise Tolerant Applications. *Zarei, A.*, +, *TCSI Nov. 2021 4686-4699*

**Approximation algorithms**

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High-Dimensional Extension of the TICER Algorithm. *Hao, L.*, +, *TCSI Nov. 2021 4722-4734*

**Approximation theory**

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**Architecture**

Analog Neural Computing With Super-Resolution Memristor Crossbars. *James, A.P.*, +, *TCSI Nov. 2021 4470-4481*

**Array signal processing**

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**Arrays**

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**Artificial biological organs**

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**Artificial intelligence**

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**Artificial neural networks**

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**Artificial organs**

Towards Safe and Robust Closed-Loop Artificial Pancreas Using Improved PID-Based Control Strategies. *Alshalalfah, A.*, +, *TCSI Aug. 2021 3147-3157*

**Assistive technology**

A Gait Energy Image-Based System for Brazilian Sign Language Recognition. *Passos, W.L.*, +, *TCSI Nov. 2021 4761-4771*

**Asymptotic stability**

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**Asynchronous circuits**

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**Attenuation**

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**Authorization**

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**Automata**

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**Autonomous aerial vehicles**

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**Autonomous underwater vehicles**

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**Autoregressive processes**

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**Avalanche photodiodes**

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**Backstepping**

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**Baluns**

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**Band-pass filters**

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**Band-stop filters**

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**Bandwidth**

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**Bayes methods**

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**BCH codes**

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**Beam steering**

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**Binary codes**

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**Bioelectric phenomena**

High Speed and Low Digital Resources Implementation of Hodgkin-Huxley Neuronal Model Using Base-2 Functions. *Haghiri, S.*, +, *TCSI Jan. 2021 275-287*

**Bioelectric potentials**

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**Biological neural networks**

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**Biological system modeling**

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**Biological techniques**

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**Biology**

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**Biomedical electrodes**

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**Biomedical electronics**

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**Biosensors**

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**Bipolar MIMIC**

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**Bipolar transistors**

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**Biquadratic filters**

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**Blockchains**

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**Blood**

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**Bluetooth**

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**Boolean functions**

Time-Domain Computing in Memory Using Spintronics for Energy-Efficient Convolutional Neural Network. *Zhang, Y.*, +, *TCSI March 2021 1193-1205*

**Boosting**

A Double-Memristor Hyperchaotic Oscillator With Complete Amplitude Control. *Jiang, Y.*, +, *TCSI Dec. 2021 4935-4944*

**Brain**

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**Brain modeling**

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**Bridge circuits**

Fault Modeling and Efficient Testing of Memristor-Based Memory. *Liu, P.*, +, *TCSI Nov. 2021 4444-4455*

**Brightness**

Modeling and Analysis of High-Performance Triple Hole Block Layer Organic LED Based Light Sensor for Detection of Ovarian Cancer. *Negi, S.*, +, *TCSI Aug. 2021 3254-3264*

**Broadband antennas**

Millimeter-Wave Integrated Phased Arrays. *Zhao, D.*, +, *TCSI Oct. 2021 3977-3990*

**Brushless DC motors**

Predictive Control of Low-Cost Three-Phase Four-Switch Inverter-Fed Drives for Brushless DC Motor Applications. *Naseri, F.*, +, *TCSI March 2021 1308-1318*

**Buffer circuits**

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**Built-in self test**

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**Busbars**

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**C****Cache storage**

Exploring Applications of STT-RAM in GPU Architectures. *Liu, X.*, +, *TCSI Jan. 2021 238-249*

Magnetoresistive Circuits and Systems: Embedded Non-Volatile Memory to Crossbar Arrays. *Agrawal, A.*, +, *TCSI June 2021 2281-2294*

**CAD**

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**Calibration**

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**Cameras**

A Gait Energy Image-Based System for Brazilian Sign Language Recognition. *Passos, W.L.*, +, *TCSI Nov. 2021 4761-4771*

**Cancer**

22 dB Signal-to-Noise Ratio Real-Time Proton Sound Detector for Experimental Beam Range Verification. *Vallicelli, E.A.*, +, *TCSI Jan. 2021 3-13*

Modeling and Analysis of High-Performance Triple Hole Block Layer Organic LED Based Light Sensor for Detection of Ovarian Cancer. *Negi, S.*, +, *TCSI Aug. 2021 3254-3264*

**Capacitance**

High-Dimensional Extension of the TICER Algorithm. *Hao, L.*, +, *TCSI Nov. 2021 4722-4734*

- Multi-Objective Digital Design Optimization via Improved Drive Granularity Standard Cells. *Cao, L., +, TCSI Nov. 2021 4660-4671*
- Noise-Shaping SAR ADC Using a Two-Capacitor Digitally Calibrated DAC With 82.6-dB SNDR and 90.9-dB SFDR. *Shi, L., +, TCSI Oct. 2021 4001-4012*
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- Capacitive sensors**
- Highly Sensitive Phase-Variation Dielectric Constant Sensor Based on a Capacitively-Loaded Slow-Wave Transmission Line. *Ebrahimi, A., +, TCSI July 2021 2787-2799*
- Capacitors**
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- Experimental Study of Fractional-Order RC Circuit Model Using the Caputo and Caputo-Fabrizio Derivatives. *Lin, D., +, TCSI March 2021 1034-1044*
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- Noise Analysis of Charge-Balanced Readout Circuits for MEMS Accelerometers. *Lanniel, A., +, TCSI Jan. 2021 175-184*
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- Ripple Suppression in Capacitive-Gain Chopper Instrumentation Amplifier Using Amplifier Slicing. *Lin, T.N., +, TCSI Oct. 2021 3991-4000*
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- Synthesis of High-Order Continuously Tunable Low-Pass Active-R Filters. *Sanabria-Borbon, A.C., +, TCSI May 2021 1841-1854*
- Cascade networks**
- Adaptive Multi-Band Negative-Group-Delay RF Circuits With Low Reflection. *Gomez-Garcia, R., +, TCSI May 2021 2196-2209*
- Cellular biophysics**
- High Speed and Low Digital Resources Implementation of Hodgkin-Huxley Neuronal Model Using Base-2 Functions. *Haghiri, S., +, TCSI Jan. 2021 275-287*
- Cellular radio**
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- Central Processing Unit**
- Reinforcement Learning-Based Power Management Policy for Mobile Device Systems. *Kwon, E., +, TCSI Oct. 2021 4156-4169*
- Channel bank filters**
- A 270 nW Switched-Capacitor Acoustic Feature Extractor for Always-On Voice Activity Detection. *Shi, E., +, TCSI March 2021 1045-1054*
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- High-Speed LDPC Decoders Towards 1 Tb/s. *Li, M., +, TCSI May 2021 2224-2233*
- Chaos**
- A Double-Memristor Hyperchaotic Oscillator With Complete Amplitude Control. *Jiang, Y., +, TCSI Dec. 2021 4935-4944*
- Chaos Generation With Impulse Control: Application to Non-Chaotic Systems and Circuit Design. *Tian, K., +, TCSI July 2021 3012-3022*
- Constructing Higher-Dimensional Digital Chaotic Systems via Loop-State Contraction Algorithm. *Wang, Q., +, TCSI Sept. 2021 3794-3807*
- Continuation-Based Method to Find Periodic Windows in Bifurcation Diagrams With Applications to the Chua's Circuit With a Cubic Nonlinearity. *Galias, Z., TCSI Sept. 2021 3784-3793*
- Discrete Memristor Hyperchaotic Maps. *Bao, H., +, TCSI Nov. 2021 4534-4544*
- Neural Bursting and Synchronization Emulated by Neural Networks and Circuits. *Lin, H., +, TCSI Aug. 2021 3397-3410*
- Neuromorphic Dynamics of Chua Corsage Memristor. *Jin, P., +, TCSI Nov. 2021 4419-4432*
- Chaos generators**
- Chaos Generation With Impulse Control: Application to Non-Chaotic Systems and Circuit Design. *Tian, K., +, TCSI July 2021 3012-3022*
- Chaotic communication**
- A Double-Memristor Hyperchaotic Oscillator With Complete Amplitude Control. *Jiang, Y., +, TCSI Dec. 2021 4935-4944*
- Discrete Memristor Hyperchaotic Maps. *Bao, H., +, TCSI Nov. 2021 4534-4544*
- Finite-/Fixed-Time Synchronization of Memristor Chaotic Systems and Image Encryption Application. *Wang, L., +, TCSI Dec. 2021 4957-4969*
- Generating Any Number of Diversified Hidden Attractors via Memristor Coupling. *Zhang, S., +, TCSI Dec. 2021 4945-4956*
- Charge pump circuits**
- Delta-Sigma FDC Enhancements for FDC-Based Digital Fractional-N PLLs. *Alvarez-Fontecilla, E., +, TCSI March 2021 965-974*
- Charge pumps**
- A Three-Stage Charge Pump With Forward Body Biasing in 28 nm UTBB FD-SOI CMOS. *Pinheiro, C.A., +, TCSI Nov. 2021 4810-4819*
- Nonlinear Analysis of Charge-Pump Phase-Locked Loop: The Hold-In and Pull-In Ranges. *Kuznetsov, N., +, TCSI Oct. 2021 4049-4061*
- Chemical sensors**
- Towards Safe and Robust Closed-Loop Artificial Pancreas Using Improved PID-Based Control Strategies. *Alshalalfeh, A., +, TCSI Aug. 2021 3147-3157*
- Choppers (circuits)**
- A Galvanic Isolated Amplifier Based on CMOS Integrated Hall-Effect Sensors. *Mirfakhraei, S.S., +, TCSI April 2021 1388-1397*
- Ripple Suppression in Capacitive-Gain Chopper Instrumentation Amplifier Using Amplifier Slicing. *Lin, T.N., +, TCSI Oct. 2021 3991-4000*
- Chua's circuit**
- Almost Sure Synchronization of Multilayer Networks via Intermittent Pinning Noises: A White-Noise-Based Time-Varying Coupling. *Li, S., +, TCSI Aug. 2021 3460-3473*
- Continuation-Based Method to Find Periodic Windows in Bifurcation Diagrams With Applications to the Chua's Circuit With a Cubic Nonlinearity. *Galias, Z., TCSI Sept. 2021 3784-3793*

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#### Circuit analysis

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#### Circuit analysis computing

Applications of Artificial Intelligence on the Modeling and Optimization for Analog and Mixed-Signal Circuits: A Review. *Fayazi, M.*, +, *TCSI June 2021 2418-2431*

#### Circuit complexity

Low-Complexity High-Precision Method and Architecture for Computing the Logarithm of Complex Numbers. *Chen, H.*, +, *TCSI Aug. 2021 3293-3304*

#### Circuit faults

Fault Modeling and Efficient Testing of Memristor-Based Memory. *Liu, P.*, +, *TCSI Nov. 2021 4444-4455*

#### Circuit feedback

A Fast-Transient Low-Dropout Regulator With Current-Efficient Super Transconductance Cell and Dynamic Reference Control. *Ming, X.*, +, *TCSI June 2021 2354-2367*

Continuous-Time Incremental Delta-Sigma Modulators With FIR Feedback. *Pavan, S.*, +, *TCSI Aug. 2021 3222-3231*

Gain-Boosted Super Class AB OTAs Based on Nested Local Feedback. *Beloso-Legarra, J.*, +, *TCSI Sept. 2021 3562-3573*

#### Circuit noise

The Analog Behavior of Pseudo Digital Ring Oscillators Used in VCO ADCs. *Borgmans, J.*, +, *TCSI July 2021 2827-2840*

#### Circuit optimization

An Efficient and Flexible Accelerator Design for Sparse Convolutional Neural Networks. *Xie, X.*, +, *TCSI July 2021 2936-2949*

Analysis and Design of Lossy Capacitive Over-Neutralization Technique for Amplifiers Operating Near  $f_{MAX}$ . *Simic, D.*, +, *TCSI May 2021 1945-1955*

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Re-Assessment of Steep-Slope Device Design From a Circuit-Level Perspective Using Novel Evaluation Criteria and Model-Less Method. *Wang, Z.*, +, *TCSI April 2021 1624-1635*

#### Circuit oscillations

The Analog Behavior of Pseudo Digital Ring Oscillators Used in VCO ADCs. *Borgmans, J.*, +, *TCSI July 2021 2827-2840*

#### Circuit simulation

A Fast and Fully Parallel Analog CMOS Solver for Nonlinear PDEs. *Mala-vipathirana, H.*, +, *TCSI Aug. 2021 3363-3376*

A Generalization of the Groszkowski's Result in Differential Oscillator Topologies. *Buccoleri, F.*, +, *TCSI July 2021 2800-2812*

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Soft Fault Diagnosis of Analog Circuits Based on a ResNet With Circuit Spectrum Map. *Ji, L.*, +, *TCSI July 2021 2841-2849*

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A Compact Transformer-Based Fractional-N ADPLL in 10-nm FinFET CMOS. *Li, C.*, +, *TCSI May 2021 1881-1891*

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#### Clock and data recovery circuits

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#### CMOS analog integrated circuits

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#### CMOS digital integrated circuits

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- An Active-Under-Coil RFDAC With Analog Linear Interpolation in 28-nm CMOS. *Zhang, F.*, +, *TCSI May 2021 1855-1868*
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- Plesiochronous Spread Spectrum Clocking With Guaranteed QoS for In-Band Switching Noise Reduction. *Fan, X.*, +, *TCSI July 2021 3031-3043*
- CMOS image sensors**
- A  $2e_{\text{rms}}$ -Temporal Noise CMOS Image Sensor With In-Pixel  $1/f$  Noise Reduction and Conversion Gain Modulation for Low Light Imaging. *Priyadarshini, N.*, +, *TCSI Jan. 2021 185-195*
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- A 0.14-to-0.29-pJ/bit 14-Gbaud/s Trimodal (NRZ/PAM-4/PAM-8) Half-Rate Bang-Bang Clock and Data Recovery (BBCDR) Circuit in 28-nm CMOS. *Zhao, X.*, +, *TCSI Jan. 2021 89-102*
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- A 270 nW Switched-Capacitor Acoustic Feature Extractor for Always-On Voice Activity Detection. *Shi, E.*, +, *TCSI March 2021 1045-1054*
- A  $2e_{\text{rms}}$ -Temporal Noise CMOS Image Sensor With In-Pixel  $1/f$  Noise Reduction and Conversion Gain Modulation for Low Light Imaging. *Priyadarshini, N.*, +, *TCSI Jan. 2021 185-195*
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- A 7.8–13.6 pJ/b Ultra-Low Latency and Reconfigurable Neural Network-Assisted Polar Decoder With Multi-Code Length Support. *Teng, C.*, +, *TCSI May 2021 1956-1965*
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- A Capacitively Coupled CT  $\Delta\Sigma\text{M}$  With Chopping Artifacts Rejection for Sensor Readout ICs. *Lim, C.*, +, *TCSI Aug. 2021 3242-3253*
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- A Galvanic Isolated Amplifier Based on CMOS Integrated Hall-Effect Sensors. *Mirfakhraei, S.S.*, +, *TCSI April 2021 1388-1397*
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- A Low-Profile Autonomous Interface Circuit for Piezoelectric Micro-Power Generators. *Ciftci, B.*, +, *TCSI April 2021 1458-1471*
- A Multi-Step Incremental Analog-to-Digital Converter With a Single Opamp and Two-Capacitor SAR Extended Counting. *Kuo, S.*, +, *TCSI July 2021 2890-2899*
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- An 800 nW Switched-Capacitor Feature Extraction Filterbank for Sound Classification. *Villamizar, D.A.*, +, *TCSI April 2021 1578-1588*
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- Asynchronous Event-Driven Clocking and Control in Pipelined ADCs. *Hershberg, B.*, +, *TCSI July 2021 2813-2826*
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- Efficient Row-Layered Decoder for Sparse Code Multiple Access. *Pang, X.*, +, *TCSI Aug. 2021 3495-3507*
- Gain-Boosted Super Class AB OTAs Based on Nested Local Feedback. *Beloso-Legarra, J.*, +, *TCSI Sept. 2021 3562-3573*
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- High-Speed LDPC Decoders Towards 1 Tb/s. *Li, M.*, +, *TCSI May 2021 2224-2233*
- LAYGO: A Template-and-Grid-Based Layout Generation Engine for Advanced CMOS Technologies. *Han, J.*, +, *TCSI March 2021 1012-1022*
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#### Graph coloring

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#### Graph theory

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#### $H^\infty$ control

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Robust  $H_\infty$  Adaptive Sliding Mode Fault Tolerant Control for T-S Fuzzy Fractional Order Systems With Mismatched Disturbances. *Zhang, X.*, +, *TCSI March 2021 1297-1307*

#### Haar transforms

Approximate Pruned and Truncated Haar Discrete Wavelet Transform VLSI Hardware for Energy-Efficient ECG Signal Processing. *Seidel, H.B.*, +, *TCSI May 2021 1814-1826*

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A Galvanic Isolated Amplifier Based on CMOS Integrated Hall-Effect Sensors. *Mirfakhraei, S.S.*, +, *TCSI April 2021 1388-1397*

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- DyGA: A Hardware-Efficient Accelerator With Traffic-Aware Dynamic Scheduling for Graph Convolutional Networks. *Xie, R.*, +, *TCSI Dec. 2021 5095-5107*
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- Efficient Hardware Architecture of Convolutional Neural Network for ECG Classification in Wearable Healthcare Device. *Lu, J.*, +, *TCSI July 2021 2976-2985*
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**Image resolution**

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**Image texture**

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**Impedance matrix**

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**Indium compounds**

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A 2.4-6 GHz Broadband GaN Power Amplifier for 802.11ax Application. *Liu, B.*, +, *TCSI June 2021 2404-2417*

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**Inference mechanisms**

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**Infrared detectors**

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**Infrared imaging**

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**Innovation management**

Evaluating Performances and Importance of Venture Capitals: A Complex Network Approach. *Liu, J.*, +, *TCSI May 2021 2060-2068*

**Instrumentation amplifiers**

A 197.1- $\mu$ W Wireless Sensor SoC With an Energy-Efficient Analog Front-End and a Harmonic Injection-Locked OOK TX. *Hu, H.*, +, *TCSI June 2021 2444-2456*

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Variable-Rate VLSI Architecture for 400-Gb/s Hard-Decision Product Decoder. *Jain, V.*, +, *TCSI Jan. 2021 25-34*

**Integrated circuit interconnections**

LAYGO: A Template-and-Grid-Based Layout Generation Engine for Advanced CMOS Technologies. *Han, J.*, +, *TCSI March 2021 1012-1022*

**Integrated circuit layout**

LAYGO: A Template-and-Grid-Based Layout Generation Engine for Advanced CMOS Technologies. *Han, J.*, +, *TCSI March 2021 1012-1022*

Resonant Clock Synchronization With Active Silicon Interposer for Multi-Die Systems. *Kuttappa, R.*, +, *TCSI April 2021 1636-1645*



**Integrated circuit manufacture**

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**Integrated circuit measurement**

mm-Wave Through-Load Element for On-Wafer Measurement Applications. *Margalef-Rovira, M.*, +, *TCSI Aug. 2021 3170-3183*

**Integrated circuit modeling**

77.3-GHz Standing-Wave Oscillator Based on an Asymmetrical Tunable Slow-Wave Coplanar Stripline Resonator. *Gomes, L.*, +, *TCSI Aug. 2021 3158-3169*

A Novel Flow for Reducing Dynamic Power and Conditional Performance Improvement. *Mostafa, M.*, +, *TCSI May 2021 2003-2016*

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Annealing Processing Architecture of 28-nm CMOS Chip for Ising Model With 512 Fully Connected Spins. *Imura, R.*, +, *TCSI Dec. 2021 5061-5071*

Applications of Artificial Intelligence on the Modeling and Optimization for Analog and Mixed-Signal Circuits: A Review. *Fayazi, M.*, +, *TCSI June 2021 2418-2431*

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Design Flow for Hybrid CMOS/Memristor Systems—Part I: Modeling and Verification Steps. *Maheshwari, S.*, +, *TCSI Dec. 2021 4862-4875*

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Design of Digital OTAs With Operation Down to 0.3 V and nW Power for Direct Harvesting. *Toledo, P.*, +, *TCSI Sept. 2021 3693-3706*

Design of High-Reliability Memory Cell to Mitigate Single Event Multiple Node Upsets. *Li, H.*, +, *TCSI Oct. 2021 4170-4181*

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Generating Any Number of Diversified Hidden Attractors via Memristor Coupling. *Zhang, S.*, +, *TCSI Dec. 2021 4945-4956*

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How to Build a Memristive Integrate-and-Fire Model for Spiking Neuronal Signal Generation. *Kang, S.M.*, +, *TCSI Dec. 2021 4837-4850*

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Optimization Schemes for In-Memory Linear Regression Circuit With Memristor Arrays. *Wang, S.*, +, *TCSI Dec. 2021 4900-4909*

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**Integrated circuit noise**

A Generalization of the Groszkowski's Result in Differential Oscillator Topologies. *Buccoleri, F.*, +, *TCSI July 2021 2800-2812*

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SymBIST: Symmetry-Based Analog and Mixed-Signal Built-In Self-Test for Functional Safety. *Pavlidis, A.*, +, *TCSI June 2021 2580-2593*

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**Integrated circuit yield**

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**Integrated circuits**

Exponential Synchronization of Complex Networks: An Intermittent Adaptive Event-Triggered Control Strategy. *Wu, Y.*, +, *TCSI Nov. 2021 4735-4745*

**Integrated memory circuits**

Characterization of Inter-Cell Interference in 3D NAND Flash Memory. *Park, S.K.*, +, *TCSI March 2021 1183-1192*

Memory Access Optimization for On-Chip Transfer Learning. *Hussain, M.A.*, +, *TCSI April 2021 1507-1519*

**Intercell interference**

Characterization of Inter-Cell Interference in 3D NAND Flash Memory. *Park, S.K.*, +, *TCSI March 2021 1183-1192*

**Interference**

Robust  $H_\infty$  Control for ICPT Process With Coil Misalignment and Time Delay: A Sojourn-Probability-Based Switching Case. *Li, T., +, TCSI Dec. 2021 5156-5167*

**Interference cancellation**

Analysis and Design of Quasi-Circulating Quadrature Hybrid for Full-Duplex Wireless. *Regev, D., +, TCSI Dec. 2021 5168-5181*

**Interference suppression**

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**Interleaved codes**

Coding Efficiency Enhancement Using Time Interleaved Level Splitting and Optimized Multi-Level Delta Sigma Modulation in Digital Transmitter. *Kumar, N., +, TCSI July 2021 2986-2997*

**Intermodulation**

Multi-Stream Spatial Digital Predistortion for Fully-Connected Hybrid Beamforming Massive MIMO Transmitters. *Liu, X., +, TCSI July 2021 2998-3011*

**Intermodulation distortion**

A 660 MHz–5 GHz 6-Phase/3-Phase Transmitter With Cancellation of Counter-Intermodulation Distortion and Improved Image Rejection. *Jiang, H., +, TCSI April 2021 1432-1443*

**International trade**

Low-Latency Hardware Accelerator for Improved Engle-Granger Cointegration in Pairs Trading. *Liang, S., +, TCSI July 2021 2911-2924*

**Internet of Things**

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**Interpolation**

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**Inverters**

A T-Type Switched-Capacitor Multilevel Inverter With Low Voltage Stress and Self-Balancing. *Wang, Y., +, TCSI May 2021 2257-2270*

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**Investment**

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**Iron**

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**ISO**

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**Iterative methods**

An Energy Efficient Accelerator for Bidirectional Recurrent Neural Networks (BiRNNs) Using Hybrid-Iterative Compression With Error Sensitivity. *Nan, G., +, TCSI Sept. 2021 3707-3718*

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**J****Jacobian matrices**

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**Jamming**

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**Jitter**

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#### Junctions

A Self-Matched Multi-Band Rectifier for Efficient Electromagnetic Energy Harvesting. *Wang, S.H.*, +, *TCSI Nov. 2021 4556-4565*

Accurately Modeling Zero-Bias Diode-Based RF Power Harvesters With Wide Adaptability to Frequency and Power. *Guo, L.*, +, *TCSI Dec. 2021 5194-5205*

### K

#### Kalman filters

Centralized System Identification of Multi-Rail Power Converter Systems Using an Iterative Decimation Approach. *Xu, J.*, +, *TCSI Aug. 2021 3520-3533*

### L

#### Ladder filters

An SoC FPAA Based Programmable, Ladder-Filter Based, Linear-Phase Analog Filter. *Hasler, J.*, +, *TCSI Feb. 2021 592-602*

#### Laplace transforms

Experimental Study of Fractional-Order RC Circuit Model Using the Caputo and Caputo-Fabrizio Derivatives. *Lin, D.*, +, *TCSI March 2021 1034-1044*

#### Large scale integration

Annealing Processing Architecture of 28-nm CMOS Chip for Ising Model With 512 Fully Connected Spins. *Iimura, R.*, +, *TCSI Dec. 2021 5061-5071*

#### Lattice theory

Lattice Trajectory Piecewise Linear Method for the Simulation of Diode Circuits. *Wang, J.*, +, *TCSI May 2021 2069-2081*

#### Layout

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#### LC circuits

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#### Leakage currents

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#### Least mean squares methods

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#### Libraries

Automated Design Approximation to Overcome Circuit Aging. *Balaskas, K.*, +, *TCSI Nov. 2021 4710-4721*

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#### Linear matrix inequalities

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#### Linearity

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#### Linearization techniques

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- Vibration Control of Conveying Fluid Pipe Based on Inerter Enhanced Nonlinear Energy Sink. *Duan, N., +, TCSI April 2021 1610-1623*

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### Machine control

- Predictive Control of Low-Cost Three-Phase Four-Switch Inverter-Fed Drives for Brushless DC Motor Applications. *Naseri, F., +, TCSI March 2021 1308-1318*

### Macros

- Challenges and Trends of SRAM-Based Computing-In-Memory for AI Edge Devices. *Jhang, C., +, TCSI May 2021 1773-1786*

### Magnetic anisotropy

- LIMITA: Logic-in-Memory Primitives for Imprecise Tolerant Applications. *Zarei, A., +, TCSI Nov. 2021 4686-4699*

### Magnetic resonance

- Frequency Splitting Elimination and Utilization in Magnetic Coupling Wireless Power Transfer Systems. *Liao, Z., +, TCSI Feb. 2021 929-939*
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### Magnetic tunneling

- An MTJ-Based Asynchronous System With Extremely Fine-Grained Voltage Scaling. *Yin, N., +, TCSI Jan. 2021 311-321*
- LIMITA: Logic-in-Memory Primitives for Imprecise Tolerant Applications. *Zarei, A., +, TCSI Nov. 2021 4686-4699*

### Magneto-electronics

- Non-Volatile Approximate Arithmetic Circuits Using Scalable Hybrid Spin-CMOS Majority Gates. *Jiang, H., +, TCSI March 2021 1217-1230*
- Self-Referenced Single-Ended Resistance Monitoring Write Termination Scheme for STT-RAM Write Energy Reduction. *Choi, S., +, TCSI June 2021 2481-2493*
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### Magnons

- Spin Wave Normalization Toward All Magnonic Circuits. *Mahmoud, A.N., +, TCSI Jan. 2021 536-549*

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- A Three-Stage Charge Pump With Forward Body Biasing in 28 nm UTBB FD-SOI CMOS. *Pinheiro, C.A., +, TCSI Nov. 2021 4810-4819*
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### Market research

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- A Self-Matched Multi-Band Rectifier for Efficient Electromagnetic Energy Harvesting. *Wang, S.H., +, TCSI Nov. 2021 4556-4565*
- An Efficient Digital Realization of Retinal Light Adaptation in Cone Photoreceptors. *Ghanbarpour, M., +, TCSI Dec. 2021 5072-5080*
- Discrete Memristor Hyperchaotic Maps. *Bao, H., +, TCSI Nov. 2021 4534-4544*
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- Fixed-Complexity Tree Search Schemes for Detecting Generalized Spatially Modulated Signals: Algorithms and Hardware Architectures. *Liu, T.*, +, *TCSI Feb. 2021 904-917*

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- A CMOS Energy Harvesting Interface Circuit With Cycle-to-Cycle Frequency-to-Amplitude Conversion MPPT for Centimeter-Scale Wind Turbine. *Zeng, Z.*, +, *TCSI Sept. 2021 3587-3597*
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- Guest Editorial Special Issue on the IEEE International NEWCAS Conference 2020. *David, J.*, +, *TCSI Aug. 2021 3131-3132*
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- A Logic-Compatible eDRAM Compute-In-Memory With Embedded ADCs for Processing Neural Networks. *Yu, C.*, +, *TCSI Feb. 2021 667-679*
- Analysis and Optimization Strategies Toward Reliable and High-Speed 6T Compute SRAM. *Chen, J.*, +, *TCSI April 2021 1520-1531*
- Challenges and Trends of SRAM-Based Computing-In-Memory for AI Edge Devices. *Jhang, C.*, +, *TCSI May 2021 1773-1786*
- Implementation of Ternary Weights With Resistive RAM Using a Single Sense Operation Per Synapse. *Laborieux, A.*, +, *TCSI Jan. 2021 138-147*
- Memory Access Optimization for On-Chip Transfer Learning. *Hussain, M.A.*, +, *TCSI April 2021 1507-1519*
- Spatial-Temporal Hybrid Neural Network With Computing-in-Memory Architecture. *Bai, K.*, +, *TCSI July 2021 2850-2862*
- SRIF: Scalable and Reliable Integrate and Fire Circuit ADC for Memristor-Based CIM Architectures. *Singh, A.*, +, *TCSI May 2021 1917-1930*

**Memristor circuits**

- Investigation of ReRAM Variability on Flow-Based Edge Detection Computing Using HfO<sub>2</sub>-Based ReRAM Arrays. *Rafiq, S.*, +, *TCSI July 2021 2900-2910*
- Unfolding Nonlinear Dynamics in Analogue Systems With Mem-Elements. *Marco, M.D.*, +, *TCSI Jan. 2021 14-24*

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- A Compact Memristor Model for Neuromorphic ReRAM Devices in Flux-Charge Space. *Chawa, M.M.A.*, +, *TCSI Sept. 2021 3631-3641*
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- Microwave amplifiers**  
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**Millimeter wave communication**

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**Millimeter wave phase shifters**

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**Millimeter wave receivers**

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**Millimeter wave resonators**

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**Millimeter wave technology**

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**MIMIC**

Machine Learning for Automating the Design of Millimeter-Wave Baluns. *Nguyen, H.T.*, +, *TCSI June 2021 2329-2340*

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A Real-Time Hardware Emulator for 3D Non-Stationary U2V Channels. *Zhu, Q.*, +, *TCSI Sept. 2021 3951-3964*

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**MIMO systems**

Configurable Quasi-Optimal Sphere Decoding for Scalable MIMO Communications. *Wu, Y.*, +, *TCSI June 2021 2675-2687*

**Minimization**

Robust PCL Discovery of Data-Driven Mean-Field Game Systems and Control Problems. *Li, C.*, +, *TCSI June 2021 2651-2664*

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A High-Temperature Model for GaN-HEMT Transistors and its Application to Resistive Mixer Design. *Salem, J.M.*, +, *TCSI Feb. 2021 581-591*

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**MIMIC mixers**

Analysis and Design of a Broadband Receiver Front End for 0.1-to-40-GHz Application. *Hu, J.*, +, *TCSI June 2021 2393-2403*

**MMIC oscillators**

A Cascaded Mode-Switching Sub-Sampling PLL With Quadrature Dual-Mode Voltage Waveform-Shaping Oscillator. *Shu, Y.*, +, *TCSI June 2021 2341-2353*

**MMIC phase shifters**

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**Mobile communication**

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- Characterization of Inter-Cell Interference in 3D NAND Flash Memory. *Park, S.K., +, TCSI March 2021 1183-1192*
- Nanoelectronics**
- Dynamic Read  $V_{MIN}$  and Yield Estimation for Nanoscale SRAMs. *Gupta, S., +, TCSI March 2021 1171-1182*
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- Nanowires**
- From MOSFETs to Ambipolar Transistors: Standard Cell Synthesis for the Planar RFET Technology. *Reuter, M., +, TCSI Jan. 2021 114-125*
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Hardware Topologies for Decentralized Large-Scale MIMO Detection Using Newton Method. *Kulkarni, A., +, TCSI Sept. 2021 3732-3745*

#### Niobium compounds

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#### Noise abatement

Leveraging Negative Capacitance CNTFETs for Image Processing: An Ultra-Efficient Ternary Image Edge Detection Hardware. *Behbahani, F., +, TCSI Dec. 2021 5108-5119*

#### Noise measurement

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#### Noise shaping

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A Fast and Fully Parallel Analog CMOS Solver for Nonlinear PDEs. *Malavipathirana, H., +, TCSI Aug. 2021 3363-3376*

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#### Nonlinear circuits

Editorial Special Issue for 50th Birthday of Memristor Theory and Application of Neuromorphic Computing Based on Memristor - Part II. *Huang, T., +, TCSI Dec. 2021 4835-4836*

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## P

#### Parabolic equations

Joint State and Fault Estimation for Networked Interconnected PDE Systems With Semi-Markov Fault Coefficient via Conjunct Measurement. *Song, X.*, +, *TCSI Sept. 2021 3869-3880*

#### Parallel architectures

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The Truth About 2-Level Transition Elimination in Bang-Bang PAM-4 CDRs. *Verbeke, M., +, TCSI Jan. 2021 469-482*

**Phase frequency detectors**

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**Phase locked loops**

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The Truth About 2-Level Transition Elimination in Bang-Bang PAM-4 CDRs. *Verbeke, M., +, TCSI Jan. 2021 469-482*

**Phase measurement**

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**Phase modulation**

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**Phase noise**

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**Phase shifters**

Adaptive Dual-Input Analog RF Predistorter for Wideband 5G Communication Systems. *Kumar, A., +, TCSI Nov. 2021 4636-4647*

Corrections to "Millimeter-Wave Integrated Phased Arrays" [early access, Jul 12, 21 doi: 10.1109/TCSI.2021.3093093]. *Zhao, D., +, TCSI Oct. 2021 4413*

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**Phased arrays**

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**Photoconductivity**

Modeling and Analysis of High-Performance Triple Hole Block Layer Organic LED Based Light Sensor for Detection of Ovarian Cancer. *Negi, S., +, TCSI Aug. 2021 3254-3264*

**Photodetectors**

Signal and Noise Analysis of an Open-Circuit Voltage Pixel for Uncooled Infrared Image Sensors. *Fragasse, R., +, TCSI May 2021 1827-1840*

**Photodiodes**

Signal and Noise Analysis of an Open-Circuit Voltage Pixel for Uncooled Infrared Image Sensors. *Fragasse, R., +, TCSI May 2021 1827-1840*

**Photoreceptors**

An Efficient Digital Realization of Retinal Light Adaptation in Cone Photoreceptors. *Ghanbarpour, M., +, TCSI Dec. 2021 5072-5080*

**Photovoltaic power systems**

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**Physiological models**

High Speed and Low Digital Resources Implementation of Hodgkin-Huxley Neuronal Model Using Base-2 Functions. *Haghiri, S., +, TCSI Jan. 2021 275-287*

**PI control**

Control of a Buck DC/DC Converter Using Approximate Dynamic Programming and Artificial Neural Networks. *Dong, W., +, TCSI April 2021 1760-1768*

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#### Piecewise linear techniques

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#### Piezoelectric transducers

A 70-to-2 V Triboelectric Energy Harvesting System Utilizing Parallel-SSHI Rectifier and DC-DC Converters. *Kara, I.*, +, *TCSI Jan. 2021 210-223*

A Low-Profile Autonomous Interface Circuit for Piezoelectric Micro-Power Generators. *Ciftci, B.*, +, *TCSI April 2021 1458-1471*

#### Pins

Extracting RLC Parasitics From a Flexible Electronic Hybrid Assembly Using On-Chip ESD Protection Circuits. *Khan, R.A.*, +, *TCSI Oct. 2021 4025-4037*

#### Pipeline arithmetic

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#### Pipeline processing

A New Message Expansion Structure for Full Pipeline SHA-2. *Zhang, Y.*, +, *TCSI April 2021 1553-1566*

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LWRpro: An Energy-Efficient Configurable Crypto-Processor for Module-LWR. *Zhu, Y.*, +, *TCSI March 2021 1146-1159*

#### Pipes

Vibration Control of Conveying Fluid Pipe Based on Inerter Enhanced Non-linear Energy Sink. *Duan, N.*, +, *TCSI April 2021 1610-1623*

#### Poisson equation

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#### Polar codes

Hardware Implementation for Belief Propagation Flip Decoding of Polar Codes. *Ji, H.*, +, *TCSI March 2021 1330-1341*

#### Poles and zeros

A 0.59-mW 78.7-dB SNDR 2-MHz Bandwidth Active-RC Delta-Sigma Modulator With Relaxed and Reduced Amplifiers. *Wang, H.*, +, *TCSI March 2021 1114-1122*

Asymptotic Waveform Evaluation With Higher Order Poles. *Jiang, Y.*, +, *TCSI April 2021 1681-1692*

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#### Polynomial approximation

Gradient-Adaptive Spline-Interpolated LUT Methods for Low-Complexity Digital Predistortion. *Campo, P.P.*, +, *TCSI Jan. 2021 336-349*

#### Polynomials

Bounded-Input Bounded-Output Stability Tests for Two-Dimensional Continuous-Time Systems. *Bistriz, Y.*, *TCSI May 2021 2134-2147*

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#### Portable instruments

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#### Position control

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#### Power amplifiers

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Multi-Stream Spatial Digital Predistortion for Fully-Connected Hybrid Beamforming Massive MIMO Transmitters. *Liu, X.*, +, *TCSI July 2021 2998-3011*

#### Power aware computing

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A Two-Stage Operand Trimming Approximate Logarithmic Multiplier. *Pilipovic, R.*, +, *TCSI June 2021 2535-2545*

Accuracy-Configurable Radix-4 Adder With a Dynamic Output Modification Scheme. *Tsai, K.*, +, *TCSI Aug. 2021 3328-3336*

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An MTJ-Based Asynchronous System With Extremely Fine-Grained Voltage Scaling. *Yin, N.*, +, *TCSI Jan. 2021 311-321*

CARLA: A Convolution Accelerator With a Reconfigurable and Low-Energy Architecture. *Ahmadi, M.*, +, *TCSI Aug. 2021 3184-3196*

Efficient Design of Spiking Neural Network With STDP Learning Based on Fast CORDIC. *Wu, J.*, +, *TCSI June 2021 2522-2534*

Exploring Applications of STT-RAM in GPU Architectures. *Liu, X.*, +, *TCSI Jan. 2021 238-249*

Fast and Accurate Inference on Microcontrollers With Boosted Cooperative Convolutional Neural Networks (BC-Net). *Mocerino, L.*, +, *TCSI Jan. 2021 77-88*

Implementation of an On-Chip Learning Neural Network IC Using Highly Linear Charge Trap Device. *Choi, J.*, +, *TCSI July 2021 2863-2875*

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RRAM for Compute-in-Memory: From Inference to Training. *Yu, S.*, +, *TCSI July 2021 2753-2765*

Zero Aware Configurable Data Encoding by Skipping Transfer for Error Resilient Applications. *Jha, C.K.*, +, *TCSI Aug. 2021 3337-3350*

**Power capacitors**

A T-Type Switched-Capacitor Multilevel Inverter With Low Voltage Stress and Self-Balancing. *Wang, Y.*, +, *TCSI May 2021 2257-2270*

**Power combiners**

Adaptive Dual-Input Analog RF Predistorter for Wideband 5G Communication Systems. *Kumar, A.*, +, *TCSI Nov. 2021 4636-4647*

Analysis and Design of a CMOS Bidirectional Passive Vector-Modulated Phase Shifter. *Gu, P.*, +, *TCSI April 2021 1398-1408*

Coding Efficiency Enhancement Using Time Interleaved Level Splitting and Optimized Multi-Level Delta Sigma Modulation in Digital Transmitter. *Kumar, N.*, +, *TCSI July 2021 2986-2997*

**Power consumption**

A 0.11–0.38 pJ/cycle Differential Ring Oscillator in 65 nm CMOS for Robust Neurocomputing. *Zhang, X.*, +, *TCSI Feb. 2021 617-630*

A 0.7-V Sub-mW Type-II Phase-Tracking Bluetooth Low Energy Receiver in 28-nm CMOS. *Hu, S.*, +, *TCSI June 2021 2317-2328*

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An RF Energy Harvesting and Power Management Unit Operating Over –24 to +15 dBm Input Range. *Martins, G.C.*, +, *TCSI March 2021 1342-1353*

Analysis and Design of a Broadband Output Stage With Current-Reuse and a Low Insertion-Loss Bypass Mode for CMOS RF Front-End LNAs. *Schro-gendorfer, D.*, +, *TCSI May 2021 1800-1813*

BitSystolic: A 26.7 TOPS/W 2b~8b NPU With Configurable Data Flows for Edge Devices. *Yang, Q.*, +, *TCSI March 2021 1134-1145*

Design of Low-Voltage Power Efficient Frequency Dividers in Folded MOS Current Mode Logic. *Centurelli, F.*, +, *TCSI Feb. 2021 680-691*

Exploring Applications of STT-RAM in GPU Architectures. *Liu, X.*, +, *TCSI Jan. 2021 238-249*

Hybrid Pass Transistor Logic With Ambipolar Transistors. *Hu, X.*, +, *TCSI Jan. 2021 301-310*

Jitter-Power Trade-Offs in PLLs. *Razavi, B.*, *TCSI April 2021 1381-1387*

Power Scaling Laws for Radio Receiver Front Ends. *Sarajlic, M.*, +, *TCSI May 2021 2183-2195*

**Power conversion**

A Low-Profile Autonomous Interface Circuit for Piezoelectric Micro-Power Generators. *Ciftci, B.*, +, *TCSI April 2021 1458-1471*

**Power converters**

A CMOS Energy Harvesting Interface Circuit With Cycle-to-Cycle Frequency-to-Amplitude Conversion MPPT for Centimeter-Scale Wind Turbine. *Zeng, Z.*, +, *TCSI Sept. 2021 3587-3597*

A Novel Digital Control Method of Primary-Side Regulated Flyback With Active Clamping Technique. *Chen, M.*, +, *TCSI Feb. 2021 950-962*

An RF Energy Harvesting and Power Management Unit Operating Over –24 to +15 dBm Input Range. *Martins, G.C.*, +, *TCSI March 2021 1342-1353*

Centralized System Identification of Multi-Rail Power Converter Systems Using an Iterative Decimation Approach. *Xu, J.*, +, *TCSI Aug. 2021 3520-3533*

Power Management IC With a Three-Phase Cold Self-Start for Thermoelectric Generators. *Tran-Dinh, T.*, +, *TCSI Jan. 2021 103-113*

Synthesis of Constant Power Loads Using Switching Converters Under Sliding-Mode Control. *Martinez-Trevino, B.A.*, +, *TCSI Jan. 2021 524-535*

**Power demand**

A 2.1 mW 2 MHz-BW 73.8 dB-SNDR Buffer-Embedded Noise-Shaping SAR ADC. *Kim, T.*, +, *TCSI Dec. 2021 5029-5037*

A Complex Band-Pass Filter for Low-Power and High-Performance Transceivers. *Cavallaro, M.*, +, *TCSI Dec. 2021 5018-5028*

BCA: A 530-mW Multicore Blockchain Accelerator for Power-Constrained Devices in Securing Decentralized Networks. *Tran, T.H.*, +, *TCSI Oct. 2021 4245-4258*

Editorial Special Issue for 50th Birthday of Memristor Theory and Application of Neuromorphic Computing Based on Memristor - Part II. *Huang, T.*, +, *TCSI Dec. 2021 4835-4836*

LIMITA: Logic-in-Memory Primitives for Imprecise Tolerant Applications. *Zarei, A.*, +, *TCSI Nov. 2021 4686-4699*

Noise-Shaping SAR ADC Using a Two-Capacitor Digitally Calibrated DAC With 82.6-dB SNDR and 90.9-dB SFDR. *Shi, L.*, +, *TCSI Oct. 2021 4001-4012*

The Challenges and Emerging Technologies for Low-Power Artificial Intelligence IoT Systems. *Ye, L.*, +, *TCSI Dec. 2021 4821-4834*

**Power distribution faults**

Adaptive Fast Fault Location for Open-Switch Faults of Voltage Source Inverter. *Yin, H.*, +, *TCSI Sept. 2021 3965-3974*

**Power dividers**

Two- and Three-Way Filtering Power Dividers With Harmonic Suppression Using Triangle Patch Resonator. *Zhu, Y.*, +, *TCSI Dec. 2021 5007-5017*

**Power electronics**

Stability Assessment for Multi-Infed Grid-Connected VSCs Modeled in the Admittance Matrix Form. *Orellana, L.*, +, *TCSI Sept. 2021 3758-3771*

**Power engineering computing**

A New Adaptive Sparse Pseudospectral Approximation Method and its Application for Stochastic Power Flow. *Lin, J.*, +, *TCSI July 2021 3089-3102*

Intrusion-Detector-Dependent Distributed Economic Model Predictive Control for Load Frequency Regulation With PEVs Under Cyber Attacks. *Hu, Z.*, +, *TCSI Sept. 2021 3857-3868*

Loading-Aware Reliability Improvement of Ultra-Low Power Memristive Neural Networks. *Vahdat, S.*, +, *TCSI Aug. 2021 3411-3421*

**Power generation control**

Adaptive Cooperative Terminal Sliding Mode Control for Distributed Energy Storage Systems. *Yang, Y.*, +, *TCSI Jan. 2021 434-443*

Distributed Control of Multi-Functional Grid-Tied Inverters for Power Quality Improvement. *Chen, J.*, +, *TCSI Feb. 2021 918-928*

Distributed Observer-Based  $H_\infty$  Fault-Tolerant Control for DC Microgrids With Sensor Fault. *Huang, M.*, +, *TCSI April 2021 1659-1670*

Modeling and Control of Islanded DC Microgrid Clusters With Hierarchical Event-Triggered Consensus Algorithm. *Chen, Z.*, +, *TCSI Jan. 2021 376-386*

Stability Assessment for Multi-Infed Grid-Connected VSCs Modeled in the Admittance Matrix Form. *Orellana, L.*, +, *TCSI Sept. 2021 3758-3771*

**Power grids**

A T-Type Switched-Capacitor Multilevel Inverter With Low Voltage Stress and Self-Balancing. *Wang, Y.*, +, *TCSI May 2021 2257-2270*

Distributed Control of Multi-Functional Grid-Tied Inverters for Power Quality Improvement. *Chen, J.*, +, *TCSI Feb. 2021 918-928*

Stability Assessment for Multi-Infed Grid-Connected VSCs Modeled in the Admittance Matrix Form. *Orellana, L.*, +, *TCSI Sept. 2021 3758-3771*

**Power harmonic filters**

Two- and Three-Way Filtering Power Dividers With Harmonic Suppression Using Triangle Patch Resonator. *Zhu, Y.*, +, *TCSI Dec. 2021 5007-5017*

**Power inductors**

A Low-Profile Autonomous Interface Circuit for Piezoelectric Micro-Power Generators. *Ciftci, B.*, +, *TCSI April 2021 1458-1471*

**Power supply circuits**

An MTJ-Based Asynchronous System With Extremely Fine-Grained Voltage Scaling. *Yin, N.*, +, *TCSI Jan. 2021 311-321*

**Power supply quality**

Distributed Control of Multi-Functional Grid-Tied Inverters for Power Quality Improvement. *Chen, J.*, +, *TCSI Feb. 2021 918-928*

**Power system control**

Damping Power System Electromechanical Oscillations Using Time Delays. *Tzounas, G.*, +, *TCSI June 2021 2725-2735*

Delay-Dependent Stability Analysis of Modern Shipboard Microgrids. *Yildirim, B.*, +, *TCSI April 2021 1693-1705*

Event-Triggered Sliding Mode Control of Power Systems With Communication Delay and Sensor Faults. *Chen, P.*, +, *TCSI Feb. 2021 797-807*

Intrusion-Detector-Dependent Distributed Economic Model Predictive Control for Load Frequency Regulation With PEVs Under Cyber Attacks. *Hu, Z.*, +, *TCSI Sept. 2021 3857-3868*

- Modeling and Simulation of Variable Limits on Conditional Anti-Windup PI Controllers for VSC-Based Devices. *Murad, M.A.A., +, TCSI July 2021 3079-3088*
- Power system faults**
- Damping Power System Electromechanical Oscillations Using Time Delays. *Tzounas, G., +, TCSI June 2021 2725-2735*
- Power system management**
- Reinforcement Learning-Based Power Management Policy for Mobile Device Systems. *Kwon, E., +, TCSI Oct. 2021 4156-4169*
- Power system security**
- Intrusion-Detector-Dependent Distributed Economic Model Predictive Control for Load Frequency Regulation With PEVs Under Cyber Attacks. *Hu, Z., +, TCSI Sept. 2021 3857-3868*
- Power system stability**
- Damping Power System Electromechanical Oscillations Using Time Delays. *Tzounas, G., +, TCSI June 2021 2725-2735*
- Distributed Observer-Based  $H_\infty$  Fault-Tolerant Control for DC Microgrids With Sensor Fault. *Huang, M., +, TCSI April 2021 1659-1670*
- Impedance Shaping Control Strategy for Wireless Power Transfer System Based on Dynamic Small-Signal Analysis. *Tan, T., +, TCSI March 2021 1354-1365*
- Modeling and Simulation of Variable Limits on Conditional Anti-Windup PI Controllers for VSC-Based Devices. *Murad, M.A.A., +, TCSI July 2021 3079-3088*
- Output Series-Parallel Connection of Passivity-Based Controlled DC-DC Converters: Generalization of Asymptotic Stability. *Murakawa, Y., +, TCSI April 2021 1750-1759*
- Stability Assessment for Multi-Infed Grid-Connected VSCs Modeled in the Admittance Matrix Form. *Orellana, L., +, TCSI Sept. 2021 3758-3771*
- Preamplifiers**
- Low-Voltage Low-Noise High-CMRR Biopotential Integrated Preamplifier. *Cabrera, C., +, TCSI Aug. 2021 3232-3241*
- Precision engineering**
- Analog Solutions of Discrete Markov Chains via Memristor Crossbars. *Zoppo, G., +, TCSI Dec. 2021 4910-4923*
- Prediction theory**
- Centralized System Identification of Multi-Rail Power Converter Systems Using an Iterative Decimation Approach. *Xu, J., +, TCSI Aug. 2021 3520-3533*
- Predictive control**
- Control of a Buck DC/DC Converter Using Approximate Dynamic Programming and Artificial Neural Networks. *Dong, W., +, TCSI April 2021 1760-1768*
- Intrusion-Detector-Dependent Distributed Economic Model Predictive Control for Load Frequency Regulation With PEVs Under Cyber Attacks. *Hu, Z., +, TCSI Sept. 2021 3857-3868*
- Polytopic Event-Triggered Robust Model Predictive Control for Constrained Linear Systems. *Hu, Z., +, TCSI June 2021 2594-2603*
- Predictive Control of Low-Cost Three-Phase Four-Switch Inverter-Fed Drives for Brushless DC Motor Applications. *Naseri, F., +, TCSI March 2021 1308-1318*
- Predistortion**
- Adaptive Dual-Input Analog RF Predistorter for Wideband 5G Communication Systems. *Kumar, A., +, TCSI Nov. 2021 4636-4647*
- Printed circuits**
- A Galvanic Isolated Amplifier Based on CMOS Integrated Hall-Effect Sensors. *Mirfakhraei, S.S., +, TCSI April 2021 1388-1397*
- Privacy**
- Quantum Sealed-Bid Auction Without a Trusted Third Party. *Shi, R., TCSI Oct. 2021 4221-4231*
- Probabilistic logic**
- Cyber-Physical Systems With Multiple Denial-of-Service Attackers: A Game-Theoretic Framework. *Huang, Y., +, TCSI Oct. 2021 4349-4359*
- Probabilistic-Constrained  $H_\infty$  Tracking Control for a Class of Stochastic Nonlinear Systems Subject to DoS Attacks and Measurement Outliers. *Wei, B., +, TCSI Oct. 2021 4381-4392*
- Probability**
- A New Approach of Formation Control for Multi-Agent Systems With Environmental Changes. *Liu, Y., +, TCSI Aug. 2021 3449-3459*
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- 22 dB Signal-to-Noise Ratio Real-Time Proton Sound Detector for Experimental Beam Range Verification. *Vallicelli, E.A., +, TCSI Jan. 2021 3-13*
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- Approximate Equivalent Circuits to Understand Tradeoffs in Geometry of On-Chip Inductors. *Leng, W., +, TCSI March 2021 975-988*
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**PWM power converters**

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**Python**

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**Q****Q factor**

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**Quality of service**

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**Radio access technologies**

Applying Lightweight Soft Error Mitigation Techniques to Embedded Mixed Precision Deep Neural Networks. *Abich, G.*, +, *TCSI Nov. 2021 4772-4782*

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#### Radiofrequency interference

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#### Radiofrequency oscillators

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Dithering Concepts for Spur-Free Nonlinear DTC-Based Frequency Synthesizers. *Preissl, C., +, TCSI May 2021 2234-2245*

#### Radiofrequency power amplifiers

CMOS Full-Duplex Mixer-First Receiver With Adaptive Self-Interference Cancellation. *Ayati, S., +, TCSI Feb. 2021 868-878*

#### Radiometry

An Interstage-Reflectionless *V*-Band Radiometer With Capacitor-Reused Absorptive Matching in 0.13- $\mu$ m SiGe BiCMOS. *Bi, X., +, TCSI Nov. 2021 4589-4602*

#### Random access memory

Design of High-Reliability Memory Cell to Mitigate Single Event Multiple Node Upsets. *Li, H., +, TCSI Oct. 2021 4170-4181*

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#### Random processes

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#### Random sequences

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A Real-Time Hardware Emulator for 3D Non-Stationary U2V Channels. *Zhu, Q., +, TCSI Sept. 2021 3951-3964*

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#### Receivers

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#### Receiving antennas

Fixed-Complexity Tree Search Schemes for Detecting Generalized Spatially Modulated Signals: Algorithms and Hardware Architectures. *Liu, T., +, TCSI Feb. 2021 904-917*

#### Rectifiers

3–12-V Wide Input Range Adaptive Delay Compensated Active Rectifier for 6.78-MHz Loosely Coupled Wireless Power Transfer System. *Namgoong, G., +, TCSI June 2021 2702-2713*

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- Recurrent neural networks**
- A 7.8–13.6 pJ/b Ultra-Low Latency and Reconfigurable Neural Network-Assisted Polar Decoder With Multi-Code Length Support. *Teng, C., +, TCSI May 2021 1956-1965*
- An Energy Efficient Accelerator for Bidirectional Recurrent Neural Networks (BiRNNs) Using Hybrid-Iterative Compression With Error Sensitivity. *Nan, G., +, TCSI Sept. 2021 3707-3718*
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- Control of a Buck DC/DC Converter Using Approximate Dynamic Programming and Artificial Neural Networks. *Dong, W., +, TCSI April 2021 1760-1768*
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- Recursive estimation**
- Centralized System Identification of Multi-Rail Power Converter Systems Using an Iterative Decimation Approach. *Xu, J., +, TCSI Aug. 2021 3520-3533*
- Reduced instruction set computing**
- An MTJ-Based Asynchronous System With Extremely Fine-Grained Voltage Scaling. *Yin, N., +, TCSI Jan. 2021 311-321*
- Resonant Clock Synchronization With Active Silicon Interposer for Multi-Die Systems. *Kuttappa, R., +, TCSI April 2021 1636-1645*
- Reduced order systems**
- Lattice Trajectory Piecewise Linear Method for the Simulation of Diode Circuits. *Wang, J., +, TCSI May 2021 2069-2081*
- Redundancy**
- Applying Lightweight Soft Error Mitigation Techniques to Embedded Mixed Precision Deep Neural Networks. *Abich, G., +, TCSI Nov. 2021 4772-4782*
- General Efficient TMR for Combinational Circuit Hardening Against Soft Errors and Improved Multi-Objective Optimization Framework. *Tan, C., +, TCSI July 2021 3044-3057*
- Reed-Solomon codes**
- Fast Nested Key Equation Solvers for Generalized Integrated Interleaved Decoder. *Xie, Z., +, TCSI Jan. 2021 483-495*
- Reference circuits**
- A Novel Topology of Coupled Phase-Locked Loops. *Karman, S., +, TCSI March 2021 989-997*
- Broadband Mismatch Calibration for Time-Interleaved ADC Based on Linear Frequency Modulated Signal. *Peng, X., +, TCSI Sept. 2021 3621-3630*
- Sub-ppm/°C Bandgap References With Natural Basis Expansion for Curvature Cancellation. *Liu, N., +, TCSI Sept. 2021 3551-3561*
- Registers**
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- Applying Lightweight Soft Error Mitigation Techniques to Embedded Mixed Precision Deep Neural Networks. *Abich, G., +, TCSI Nov. 2021 4772-4782*
- Quantum Sealed-Bid Auction Without a Trusted Third Party. *Shi, R., TCSI Oct. 2021 4221-4231*
- Regulation**
- Buck Circuit Design With Pseudo-Constant Frequency and Constant On-Time for High Current Point-of-Load Regulation. *Chen, K., +, TCSI Oct. 2021 4062-4075*
- Regulators**
- Buck Circuit Design With Pseudo-Constant Frequency and Constant On-Time for High Current Point-of-Load Regulation. *Chen, K., +, TCSI Oct. 2021 4062-4075*
- Reinforcement learning**
- Reinforcement Learning-Based Power Management Policy for Mobile Device Systems. *Kwon, E., +, TCSI Oct. 2021 4156-4169*
- Relaxation oscillators**
- A 296 nJ Energy-per-Measurement Relaxation Oscillator-Based Analog Front-End for Chemiresistive Sensors. *Radogna, A.V., +, TCSI March 2021 1123-1133*
- A Generalization of the Groszkowski's Result in Differential Oscillator Topologies. *Buccoleri, F., +, TCSI July 2021 2800-2812*
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- Reliability**
- Applying Lightweight Soft Error Mitigation Techniques to Embedded Mixed Precision Deep Neural Networks. *Abich, G., +, TCSI Nov. 2021 4772-4782*
- Loading-Aware Reliability Improvement of Ultra-Low Power Memristive Neural Networks. *Vahdat, S., +, TCSI Aug. 2021 3411-3421*
- Reliability theory**
- Joint State and Fault Estimation for Networked Interconnected PDE Systems With Semi-Markov Fault Coefficient via Conjoint Measurement. *Song, X., +, TCSI Sept. 2021 3869-3880*
- Remotely operated vehicles**
- Adaptive Fault Estimation for Unmanned Surface Vessels With a Neural Network Observer Approach. *Chen, L., +, TCSI Jan. 2021 416-425*
- Distributed Adaptive Finite-Time Compensation Control for UAV Swarm With Uncertain Disturbances. *Zhang, J., +, TCSI Feb. 2021 829-841*
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- Renewable energy sources**
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- A 3-D Crossbar Architecture for Both Pipeline and Parallel Computations. *Aljafar, M.J., +, TCSI Nov. 2021 4456-4469*
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- Convergence of the Resistive Coupling-Based Waveform Relaxation Method for Chains of Identical and Symmetric Circuits. *Menkad, T., +, TCSI Dec. 2021 5120-5133*
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- Solving Non-Homogeneous Linear Ordinary Differential Equations Using Memristor-Capacitor Circuit. *Fu, H., +, TCSI Nov. 2021 4495-4507*
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- A Compact Memristor Model for Neuromorphic ReRAM Devices in Flux-Charge Space. *Chawa, M.M.A., +, TCSI Sept. 2021 3631-3641*
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- Active Circuits With Diodes: Topological Conditions Sufficient to Determine the State of a Diode. *Ciampa, M., TCSI Jan. 2021 35-44*



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- Quantum Sealed-Bid Auction Without a Trusted Third Party. *Shi, R.*, *TCSI Oct. 2021 4221-4231*
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- Resonators**
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- Resource management**
- Cyber-Physical Systems With Multiple Denial-of-Service Attackers: A Game-Theoretic Framework. *Huang, Y.*, +, *TCSI Oct. 2021 4349-4359*
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- Advanced Mixed Signal Concepts Exploiting the Strong Body-Bias Effect in CMOS 22FDX<sup>®</sup>. *Wittenhagen, E.*, +, *TCSI Jan. 2021 57-66*
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- Exploring Impact Factors of Risk Contagion in Venture Capital Markets: A Complex Network Approach. *Li, X.*, +, *TCSI Oct. 2021 4268-4277*
- Road vehicle radar**
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- Robots**
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- Online Identification of Piecewise Affine Systems Using Integral Concurrent Learning. *Du, Y.*, +, *TCSI Oct. 2021 4324-4336*
- Robust control**
- Adaptive Event-Triggered SMC for Stochastic Switching Systems With Semi-Markov Process and Application to Boost Converter Circuit Model. *Qi, W.*, +, *TCSI Feb. 2021 786-796*
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- Robustness**
- Design of High-Reliability Memory Cell to Mitigate Single Event Multiple Node Upsets. *Li, H.*, +, *TCSI Oct. 2021 4170-4181*
- DetectX—Adversarial Input Detection Using Current Signatures in Memristive XBar Arrays. *Moitra, A.*, +, *TCSI Nov. 2021 4482-4494*
- Rotors**
- Composite Velocity-Tracking Control for Flexible Gimbal System With Multi-Frequency-Band Disturbances. *Cui, Y.*, +, *TCSI Oct. 2021 4360-4370*
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- Bounded-Input Bounded-Output Stability Tests for Two-Dimensional Continuous-Time Systems. *Bistriz, Y.*, *TCSI May 2021 2134-2147*
- S**
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**Sensor arrays**

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**Sensor fusion**

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**Sentiment analysis**

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**Servers**

The Challenges and Emerging Technologies for Low-Power Artificial Intelligence IoT Systems. *Ye, L., +, TCSI Dec. 2021 4821-4834*

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**Share prices**

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**Signal generators**

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- Low Delay Short Word Length Sigma Delta Active Noise Control. *Lopes, P.A.C.*, +, *TCSI Sept. 2021 3746-3757*
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- Analysis and Design of Quasi-Circulating Quadrature Hybrid for Full-Duplex Wireless. *Regev, D.*, +, *TCSI Dec. 2021 5168-5181*
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**Silicon compounds**

- A High-Temperature Model for GaN-HEMT Transistors and its Application to Resistive Mixer Design. *Salem, J.M.*, +, *TCSI Feb. 2021 581-591*
- Accurate Modeling of the Effective Parasitic Parameters for the Laminated Busbar Connected With Paralleled SiC MOSFETs. *Wang, J.*, +, *TCSI May 2021 2107-2120*

**Silicon-on-insulator**

- A Charge-Domain Scalable-Weight In-Memory Computing Macro With Dual-SRAM Architecture for Precision-Scalable DNN Accelerators. *Lee, E.*, +, *TCSI Aug. 2021 3305-3316*
- Advanced Mixed Signal Concepts Exploiting the Strong Body-Bias Effect in CMOS 22FDX<sup>®</sup>. *Wittenhagen, E.*, +, *TCSI Jan. 2021 57-66*
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**Skin effect**

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- Adaptive Continuous Barrier Function Terminal Sliding Mode Control Technique for Disturbed Robotic Manipulator. *Mobayen, S.*, +, *TCSI Oct. 2021 4403-4412*
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**Smoothing methods**

- A Smoothed LASSO-Based DNN Sparsification Technique. *Koneru, B.N.G.*, +, *TCSI Oct. 2021 4287-4298*

**Social networking (online)**

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**Solid modeling**

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**Sorting**

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**Space vehicle electronics**

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- Composite Velocity-Tracking Control for Flexible Gimbal System With Multi-Frequency-Band Disturbances. *Cui, Y.*, +, *TCSI Oct. 2021 4360-4370*

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**Spin waves**

Spin Wave Normalization Toward All Magnonic Circuits. *Mahmoud, A.N., +, TCSI Jan. 2021 536-549*

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**Spread spectrum communication**

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