Jablan, Slavik; Kauffman, Louis H.; Lopes, Pedro

The delunification process and minimal diagrams. (English) Zbl 06474017

Topology Appl. 193, Article ID 5531, 270-289 (2015).

This paper looks at lune-free link diagrams, introducing ”grey sets” to facilitate the brute force calculation of coloring invariants. An abstract summarizes its remarkable results, the introduction surveys related work, and a section on algorithms nicely explains the essential structure of most tabled knots -- an excellent exposition for general readers, deserving a bit of bibliographic enhancement. Reference [{\it A. Caudron}, Publ. Math. Orsay 82--04, 336 p. (1982; Zbl 0505.57002)], a 1982 Caudron preprint, was later expanded into Orsay Prepublication 89-39 (1989), with excerpts from a prior version available on the A002863 page of N. J. A. Sloane’s OEIS website, and the reference to Conway’s use of polyhedra ”to produce the complete tables of knots up through ten crossings” seems to overlook the identically over-complete Nineteenth Century work of {\it C. N. Little} [Trans. R. Soc. Edinb. 39, 771--778 (1900; JFM 31.0481.02)]. (CAVEAT: many of Conway’s and Little’s published tables are either incomplete, or redundant, or both.)
Reviewer: Kenneth A. Perko jun. (New York)

MSC:

57M Invariants of knots
27 and 3-manifolds

Keywords:
links; colorings; lune-free diagrams; grey sets; lune-free crossing numbers