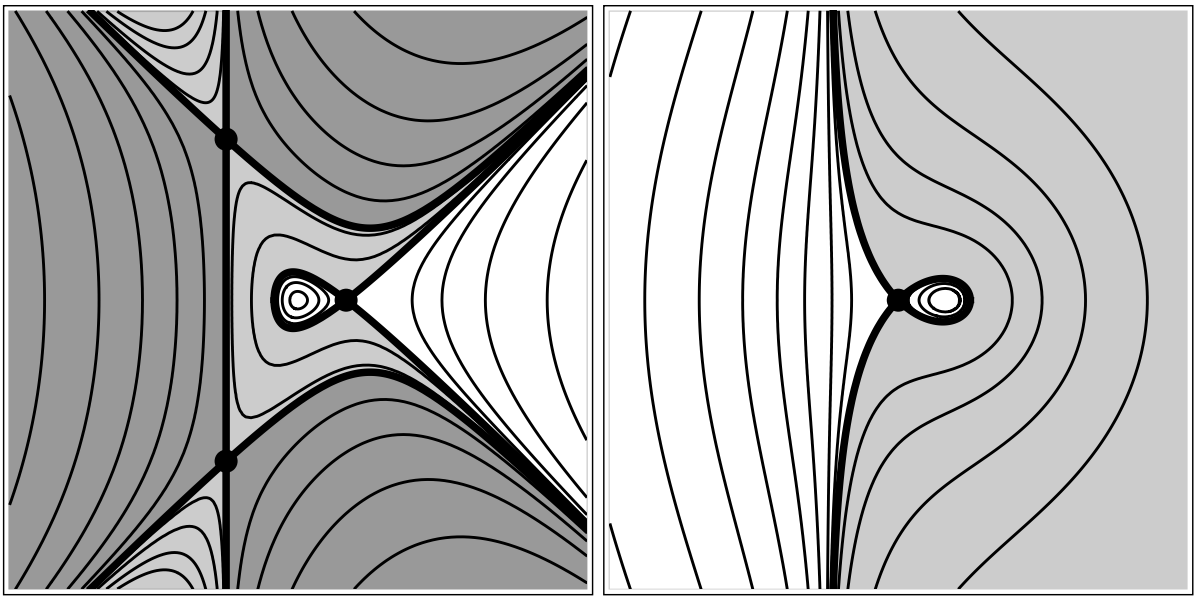

FIG. 1. A Family of Elliptic Curves Related to the Quadrinomial Coefficients. The left image depicts $\alpha = 2H_1 = p^2 + q^2 - 4(q^2 - p^2)q$, while the right image depicts $\alpha = 2H_2 = -p^2 + q^2 - 4(q^2 + p^2)q$. The two surfaces are related by complex transformation $p \to p' = \sqrt{-1}\ p$. Each surface has a local minimum, at $(q_1, p_1) = (0, 0)$ or at $(q_2, p_2) = (1/6, 0)$. Approximate harmonic oscillation occurs around both of the stable critical points with an asynchronous ratio $\omega_1 : \omega_2 = 1 : \sqrt{5/3}$.