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Some notes on planar Newtonian four-body central configurations with adjacent equal masses

This paper is concerned with any convex non-collinear central configuration of the planar Newtonian four-body problem with adjacent equal masses, which is an open problem in [2]. In this paper, we prove that if $\angle q_2q_1q_4 = \angle q_1q_2q_3$ or $\angle q_1q_4q_3 = \angle q_2q_3q_4$ holds for four-body convex non-collinear central configuration with adjacent equal masses, then the configuration must be an isosceles trapezoid.