Garcia, Ronaldo; Odehnal, Boris; Reznik, Dan
Loci of Poncelet triangles in the general closure case. (English) Zbl 07493135
J. Geom. 113, No. 1, Paper No. 17, 30 p. (2022)

Summary: We analyze loci of triangle centers over variants of two well-known triangle porisms: the bicentric and confocal families. Specifically, we evoke the general version of Poncelet’s closure theorem whereby individual sides can be made tangent to separate in-pencil caustics. We show that despite the more complicated dynamic geometry, the locus of certain triangle centers and associated points remain conics and/or circles.

MSC:
51M04 Elementary problems in Euclidean geometries
51N20 Euclidean analytic geometry
51N35 Questions of classical algebraic geometry
68T20 Problem solving in the context of artificial intelligence (heuristics, search strategies, etc.)

Keywords:
locus; Poncelet; porism; closure; ellipse

Full Text: DOI

References:

Edited by FIZ Karlsruhe, the European Mathematical Society and the Heidelberg Academy of Sciences and Humanities © 2022 FIZ Karlsruhe GmbH

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.