RIDGEM (RDGM): POSITIVE-SHAPE MECHANICS ON KENDALL'S SPHERE

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Ridgem (RDGM) formulates planar three-body shape dynamics at zero angular momentum directly on Kendall's shape sphere using only interpoint distances. A normalized Euclidean distance matrix provides a scale-free representation and an explicit map to shape space. The induced kinetic metric yields geodesic free motion and a gradient correction for similarity-invariant shape potentials. A closed-form distance-only geodesic midpoint is given, together with a minimal reproducible numerical example supported by open code and data.

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