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## Metric properties of ‘rigor mortis’ accelerations—Born’s ‘rigid motion’ collinear scenarios—without Minkowski spacetime

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An extended accelerating body under ‘rigid motion’ by definition manifests unvarying separation between its constituents in all comoving inertial frames. Relationships between constituents’ necessarily differing yet constant accelerations—reflecting a nonuniform, dynamically changing and moreover repulsive gravitational field—have been established by Woodhouse in 2003 using Minkowski spacetime, by Franklin in 2010 using Lorentz transformations, and by the present author in 2013 using unfamiliar yet simple inter-rocket radar period equations. A second ‘pseudo-rigor mortis’ attractive gravitational field scenario introduced in 2018 is now further considered. In both cases, radar trajectories are shown to exhibit unchanging inverse square root of two geodesic curvature on a corresponding real-metric spacetime surface of ubiquitously zero Gauss curvature.

Keywords: spacetime metric; own-surface; hemix; rigor mortis motion; radar paths; geodesics; Gauss curvature; gravitational fields.

### Summary

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