

THE GEODETIC INTERVAL IN A RIEMANNIAN SPACE-TIME IN THE SECOND POST-MINKOWSKIAN APPROXIMATION*

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Abstract. The knowledge of the geodesic interval between two points in a Riemannian space-time with the metric g_{ab} is essential for statements on the time delay in a gravitational field represented by g_{ab} and makes possible to derive explicit criteria for clear-cut wave propagation. The nonlinear differential equation for the geodesic interval is integrated via perturbation expansion in the second post-Minkowskian approximation.

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