Geodesic connectedness on Gödel type spacetimes: a "static" variational set-up

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We show that the problem of the geodesic connectedness of a wide class of Gödel type spacetimes can be reduced to the search of critical points of a functional naturally involved in the study of geodesics in standard static spacetimes. Then, the accurate estimates in [2] allow us to improve substantially the result in [3], by a weakening of the boundedness assumptions about the metric coefficients.

References

[1] R. Bartolo, A.M. Candela, J.L. Flores, A note on geodesic connectedness in Gödel type spacetimes, *preprint*, 2011.

[2] R. Bartolo, A.M. Candela, J.L. Flores, M. Sánchez, Geodesics in static Lorentzian manifolds with critical quadratic behavior, *Adv. Nonlinear Stud.* **3** (2003), 471–494.

[3] A.M. Candela, M. Sánchez, Geodesic connectedness in Gödel type spacetimes, *Differential Geom. Appl.* **12** (2000), 105–120.