

Paul Tod – One-sided type-D vacuum metrics are integrable

Wednesday 29 September 2021 11:30 (1 hour)

I show that any 4-dimensional Riemannian Ricci-flat metric for which either the SD or the ASD Weyl spinor is type-D has a symmetry and is determined by a solution of the Toda field equation. As a corollary, if there is a second symmetry commuting with the first then the metric is determined by an axisymmetric solution of the flat 3-dimensional Laplacian.