ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

5. Differential Geometry and Global Analysis

1991 MS Classification: 58

Pauly, Marc, Universite libre de Bruxelles, Belgium

Singular monopoles on compact 3-manifolds

Singular solutions of the Bogomolny monopole equation arise naturally if one wants to study the equation over a compact 3-dimensional riemannian manifold. In our study we admit point singularities with the additional requirement that the 3-dimensional monopole can be lifted near each singularity to a 4-dimensional instanton. A singular monopole has an integer charge at each singularity. We give a formula for the virtual dimension of the moduli space of monopoles with fixed singularities and fixed charges. In particular, we examine monopoles on the 3-sphere with its standard constant curvarture metric.