

Moduli Spaces of Connections with Toral Singularities

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Abstract

A classical result of W. Wasow gives sufficient conditions for determining if a connection on a vector bundle over the punctured disk is diagonalizable. This result has been used (notably by P. Boalch) to construct various moduli spaces of connections on the Riemann sphere with diagonalizable singularities. In a recent series of papers, C. Bremer, N. Livesay, and D. Sage have used representation theoretic techniques to generalize these moduli spaces to include connections (or flat G -bundles) with “toral singularities.” These moduli spaces are constructed via symplectic reductions and coadjoint orbits.