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Character Varieties

Character varieties can be regarded in terms of flat connections on oriented 2-manifolds, or in terms of representations of the fundamental group of a 2-manifold into a Lie group. They have a Poisson structure. The Poisson structure was originally defined by Bill Goldman (1984) or Atiyah-Bott (1983).

I will outline the origin of the Poisson structure. I will also describe how to define an almost complex structure on the symplectic leaves, in some situations.

Some parts of the material presented are joint with Indranil Biswas, Jacques Hurtubise and Sean Lawton. Other parts are joint with Yukai Zhang.