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*Higgs bundles and the triple reduced product*

(Joint work with Jacques Hurtubise, Steven Rayan, Paul Selick and Jonathan Weitsman)

We identify the symplectic quotient of the product of three orbits in  $SU(3)$  with a space of Higgs bundles over the 2-sphere with three marked points, where the residues of the Higgs fields at the marked points are constrained to lie in the three coadjoint orbits. By considering the spectral curves for the Hitchin system, we identify the moment map for a Hamiltonian circle action on the symplectic quotient. We use the earlier work of Adams, Harnad and Hurtubise to find Darboux coordinates.