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Cristina Stoica* (cstoica@wlu.ca), Department of Mathematics, Wilfrid Laurier University, Waterloo, Ontario N2L 3C5, Canada. *Symmetric mechanical systems with configuration space isotropy.*

This talk concerns Lagrangian symmetric systems near points with configuration space isotropy. A prototypical example is given by $SO(3)$ -invariant mass-point systems in collinear configurations.

Using twisted parametrisations corresponding to phase space slices based at zero points of tangent fibres, we deduce the reduced equations of motion, which are a hybrid of Euler-Poincaré and Euler-Lagrange equations. We further specialize these equations to the case of systems of the form kinetic plus potential. (Received August 29, 2011)