

**Meeting:** 998, Houston, Texas, SS 16A, Special Session on Mathematical Physics

998-70-354            **Antonio Hernandez-Garduo\*** (ahernandez@leibniz.iimas.unam.mx), Dpto. MMyN,  
IIMAS-UNAM, Apdo. Postal 20-726, Circuito Escolar, Ciudad Universitaria, 01000 Mexico City,  
D.F., Mexico. *A blowing-up technique in Routh reduction and stability.* Preliminary report.

The usage of cyclic variables in Lagrangian systems to obtain a reduced variational principle is a well known procedure. This leads to a reduced Lagrangian, so called "Routhian". In this talk I will recall the geometric formulation of this reduction procedure and will discuss a blowing-up technique for regularizing the Routhian when the reduction takes place at a configuration point with non-trivial isotropy, a situation in which a standard Routhian can not be defined. The aim is to discuss a stability result derived from this method. (Received March 02, 2004)