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**Cristina Stoica\*** ([cstoica@wlu.ca](mailto:cstoica@wlu.ca)). *Remarks on the n-body problem on surfaces of revolution.*

We explore the dynamics of  $n$  mass points constrained to move on a surface of revolution and with mutual interaction given by some binary potential. We discuss symmetries and determine certain invariant manifolds. We show that the equivalent of Saari's conjecture fails. Further, we define homographic motions to be those for which the configuration formed by the bodies is planar, orthogonal to the axis of revolution and remains self-similar in the ambient space. Using the method of discrete reduction, we prove that when the masses are equal, homographic motions form an invariant manifold with dynamics reducible to a one-degree of freedom system. We then find that for generic attractive interactions, regular  $n$ -gon-shaped relative equilibria with trajectories located on geodesic circles experience a pitchfork bifurcation. (Received September 22, 2017)