

Rubinstein, Boris; Fel, Leonid

Stability of unduloidal and nodoidal menisci between two solid spheres. (English)

Zbl 1386.53010

J. Geom. Symmetry Phys. 39, 77-98 (2015).

Summary: We find the existence conditions of unduloidal and nodoidal menisc between two solid spheres and study their stability under axisymmetric perturbations in the framework of non-spectral theory of stability of axisymmetric menisc between two axisymmetric solid bodies in the absence of gravity.

MSC:

53A10 Minimal surfaces in differential geometry, surfaces with prescribed mean curvature

76B45 Capillarity (surface tension) for incompressible inviscid fluids

76D45 Capillarity (surface tension) for incompressible viscous fluids

53Z05 Applications of differential geometry to physics

Keywords:

axisymmetric pendular rings; inflection points; stability problem