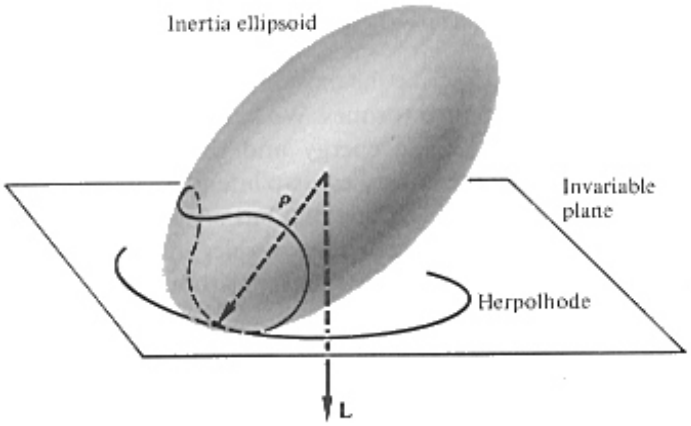
Seminar

2:00 pm Friday, March8
Pursley Hall Room 211

Computer Simulation of Rigid Body Motion:

Rotation, Nutation and Pole Flipping

Dr. Ben Stewart
Stewart Software



The polhode rolls without slipping on the herpolhode in the invariable plane.

Until the late 1950's / early 1960's, the stability of rotating objects was of interest primarily to theoretical mathematicians and toy designers. Early spacecraft designs were based on intuition. The results brought the theory of rigid body rotation out of obscurity. Today, rigid body rotation is of importance to fields as diverse as automotive and spacecraft design, toys (of course) and speculations regarding the Earth's rotation. In this seminar, rigid body motion will be described using computer simulation and some results discussed (thus neatly sidestepping the intimidation of tensor calculus - however "beautiful" it may be).