

Poinsot Motion Attitude

John E Hurtado

Summary

The torque-free rotational motion of an asymmetric rigid body is considered. Rather than focus on specific attitude coordinates, a new solution of the attitude matrix in terms of elliptic and circular functions is presented. The approach builds the attitude matrix using orthogonality properties and the concept of integrals of motion. The attitude matrix can give rise to all attitude coordinates, and one convenient set for the current situation is introduced.

