

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Chaos and Order in the $/\cdot$ Body Problem AMANDA LOGUE, JOHN F. LINDNER, JACOB LYNN, FRANK W. KING, The College of Wooster, Wooster OH 44691 — We study the classical dynamics of a line body or slash (/) and a point body or dot (.) interacting gravitationally. For this $/\cdot$ body problem, we show that the force and torque on the slash integrate exactly, greatly facilitating analysis. The diverse dynamics include a stable synchronous orbit, generic chaotic orbits, sequences of unstable periodic orbits, spin stabilized orbits, and spin-orbit coupling that can unbind the slash and dot. Applications include the dynamics of asteroid-moonlet pairs and asteroid rotation and escape rates. This work was supported in part by NSF DMR-0649112.

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Date submitted: 20 Nov 2009

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