

Abstract Submitted
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Hannay's hoop revisited beyond asymptotics HWAN BAE, JOHN F. LINDNER, The College of Wooster — A frictionless bead sliding on a rotating hoop is a classic example of an anholonomic system. Hannay's hoop has been studied in the asymptotic limit of very slow rotations. We study this system for *arbitrary* rotations and elucidate the Hannay angle by computing the forces on the bead in both inertial and rotating frames. We consider ellipses, stadia and generalize to higher dimensions. We describe experimental realizations of the hoop anholonomy.

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