

Abstract Submitted
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Update on the Swinging Atwood's Machine NICHOLAS TUFILLARO, Oregon State — The Swinging Atwood's machine (SAM) is an Atwood's machine where one of the masses is allowed to swing in a plane. There are only a few integrable examples of mechanical systems, and we show that SAM is completely integrable when the mass ratio is three. We also present an overview of recent results that analyze the dynamics of SAM for other mass ratios using the Painleve analysis and Galois theory, which indicate that SAM is non-integrable for other values of mass ratios.

Nicholas Tuffilaro
Oregon State

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