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Design of a Machine to Test Improving a Geometry-based Braid Modeling System[1] SARAH RODEKOHR, Presbyterian College, BOB JONES UNIVERSITY COLLABORATION, PRESBYTERIAN COLLEGE PHYSICS TEAM — This presentation explores the process of a project taken on to critique and improve several accepted circular braid models. In particular, the project was designed to facilitate testing of the simple braid-point model put forward by Isaac *et. al.* in 2016, as well as the testing of altered versions of the model, likely including a version with a Taylor's Expansion elasticity factor. To this end, an adjustable braiding machine was designed using an inexpensive, single-mode maypole braider. The possibility of creating similar research machines within a low-dollar budget (rather than buying a fully adjustable braider) could prove extremely useful for allowing widespread testing and research in circular braiding.

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