

Abstract Submitted
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Flow-induced oscillation of free reeds PETER BUCHAK, JOHN BUSH, MIT — We present an investigation of the mechanism by which air flow induces oscillation in free reeds, which produce sound in several musical instruments. In this system, a thin strip of metal is clamped at one end to the top of a plate above a slot large enough for it to pass through. This geometry allows a uniform flow to induce and sustain large-amplitude oscillations of the reed. We investigate experimentally the conditions under which oscillation occurs and formulate a theoretical model, informed by the work of St. Hilaire et al. [JFM, 1971], to explain our observations.

Peter Buchak
MIT

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