

Abstract Submitted
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Mode shapes of the American five-string banjo LAURIE STEPHEY, ISAAC CODREY, THOMAS MOORE, Rollins College Department of Physics, Winter Park, FL 32789 — Experimental studies of the mode shapes of the American five string banjo have revealed the importance of properly tuning the membrane that comprises the head of the instrument. Electronic speckle pattern interferometry has been used to visualize the deflection shapes of the banjo head at several frequencies. Although the off-center placement of the bridge results in asymmetric forces on the head, the mode shapes of a properly tuned banjo head appear symmetric. The implication is that the preferred sound results only when asymmetric pressure is applied to the rim of the membrane to compensate for the off-center placement of the bridge.

Laurie Stephey
Rollins College Department of Physics, Winter Park, FL 32789

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