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The modern violin bow in off-string action

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The convex camber of the modern Tourte-model bow permits off-string stroke techniques to be performed with resulting clean and crisp attacks. This paper discusses how different bow-, string-, and bowing parameters must combine in order for this to be achieved. Of particular interest are the geometrical changes imposed on the bow stick during bouncing strokes. A good spiccato bow is characterized by a stick that feels "lively", even when the bouncing is low or the hairs not leaving the string at all. With lesser-quality bows the player has to work harder (on the lower-pitched double bass even sometimes synchronously "shake" the bow stick in the string-length plane) in order to induce sufficient stick oscillation. Included in this study are measurements of finger action on bow sticks of different quality.