Discrete conservative models for the simulation of the motion of a vibrating string or rod

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Discrete conservative models for the simulation of the motion of a vibrating string (or rod) are presented. Different types of constraints at the end points are considered:

- string fixed at both end points (rod hinged or clamped);
- string (or rod) "fixed" at one end point and free to slide on a vertical guide at the other one;
- string (or rod) free to slide at both end points.

The total energy conservation and the stability of the solutions of the difference systems related to the discrete models are studied and some theoretical and numerical results are given.

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