

## Equations of motion of classical non-relativistic strings and relativistic strings

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To formulate the dynamics of a system we can write either the equations of motion or, alternatively, an action. We construct an analytic model describing the macroscopic properties of non-relativistic string and relativistic string. We study the equations of motion for nonrelativistic strings and develop the Lagrangian approach to their dynamics. More importantly, the equations of motion for the relativistic string, the action is a natural generalization of the relativistic particle action. We use the proper area of this surface as the action; this is the Nambu-Goto action. We study the reparameterization property of this action, identify the string tension, and find the equations of motion.