**ABSTRACT**

 This paper deals with the stabilization problem of first-order hyperbolic partial differential equations (PDEs) with spatial-temporal actuation over the full physical domains. We assume that the interior actuator can be decomposed into a product of spatial and temporal components, where the spatial component satisfies a specific ordinary differential equation (ODE). A Volterra integral transformation is used to convert the original system into a simple target system using the backstepping-like procedure. Unlike the classical backstepping techniques for boundary control problems of PDEs, the internal actuation cannot eliminate the residual term that causes the instability of the open-loop system. Thus, an additional differential transformation is introduced to transfer the input from the interior of the domain onto the boundary. Then, a feedback control law is designed using the classic backstepping technique which can stabilize the first-order hyperbolic PDE system in a finite time, which can be proved by using the semigroup arguments. The effectiveness of the design is illustrated with some numerical simulations.