

## **An initial-boundary value problem arising in haemodynamics**

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We consider a  $2 \times 2$  hyperbolic system of conservation laws that arises in haemodynamics, as a simplified 1-dimensional model that describes the fluid flow along a thin and long elastic vessel. The unknowns are the section area and the mean longitudinal velocity. The model has been obtained by assuming that the ratio between the vessel radius and length is small, and by a suitable averaging procedure.

For this system, we consider an initial-boundary value problem on a space bounded domain, with suitable initial and boundary conditions, and prove the existence of smooth solutions which are defined globally in time.