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*Nonlinear, Dispersive Evolution Equations on Trees.*

The propagation of pressure waves in the mammalian arterial system and of surface waves on branching rivers and streams can be approximated by coupled systems of evolution equations. Cascaval derived Korteweg-de Vries type equations to model a pressure wave in a single, elastic tube. This work was extended later by Cascaval and one of the present authors to allow for branching tubes, so providing a crude model of arterial blood flow. A local well-posedness theory was mounted for this coupled system. Here, we discuss a global theory that complements the earlier local results. (Received August 22, 2015)