**Splitting methods for a generalized blood flow equation model applied on networks**

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We analyze the Riemann problem for a generalized blood flow model with discontinuous parameters. Since no closed-form generalized Riemann invariants are available, integral curves need to be computed numerically. This has profound implications in the computational efficiency by which coupling and boundary conditions can be computed when these models are applied to networks. We propose a splitting approach to improve the efficiency of our solver, without compromising robustness or accuracy.