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Educational Curriculum	1996 BSc in Mathematics, University of Ljubljana, Ljubljana, Slovenia 1999 MSc in Mathematics, University of Ljubljana, Ljubljana, Slovenia 2004 PhD in Mathematics, University of Ljubljana, Ljubljana, Slovenia
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Current research interest	<ul style="list-style-type: none"> <li>- operator semigroups</li> <li>- dynamical processes in networks</li> <li>- positive operators</li> </ul>
Research methods	<ul style="list-style-type: none"> <li>- abstract analysis</li> </ul>
Publications	<p>A. Batkai, M. Kramar Fijavž, and A.Rhandi, Positive Operator Semigroups: from Finite to Infinite Dimensions, Birkhauser-Verlag, Basel, 2017.</p> <p>B. Dorn, M. Kramar Fijavž, R. Nagel, and A. Radl, The semigroup approach to flows in networks, Physica D: Nonlinear Phenomena 239 (2010), 1416-1421.</p> <p>K.-J. Engel and M. Kramar Fijavž, Waves and Diffusion on Metric Graphs with General Vertex Conditions, preprint, 2018, arXiv:1712.03030.</p>

**Perturbation methods for differential operators on networks**

We present a semigroup approach to different evolutionary processes (such as transport or diffusion) in networks. The processes along the edges are modelled by linear first or second-order differential operators whereby the boundary conditions in the vertices of the network are contained in the domain of the corresponding operator. We use a result for boundary perturbations of domains of generators developed by Adler-Bombieri-Engel and Hadd-Manzo-Rhandi to show well-posedness of the problem for a very general set of boundary conditions. We can treat also non-compact networks, where some edges are allowed to have infinite length.