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DSWeb 2024 Contest—Tutorials on Dynamical Systems Software

To the contest organizers

This letter accompanies our submission to the 2024 DSWeb Software Tutorial Contest. My tutorial describes QGLAB, a MATLAB package for setting up, solving, and visualizing solutions to PDE problems posed on Quantum Graphs. As described in the tutorial, quantum graphs arise in various areas of physics and have been a popular topic in analysis research for the past few decades. QGLAB is the most fully featured and easy-to-use package available for such problems.

The software is intended for students and researchers working with quantum graphs.

The tutorial is described in the accompanying PDF and a preprint of a paper currently under review.

The software may be downloaded from GitHub and contains instructions, as well as many more examples and instructions than we were able to include in the tutorial.

I am the lead developer of the software and the author of the tutorial. I am a senior faculty member at NJIT. The package contains extensive contributions from **Gracie Conte**, which were part of her Ph.D. dissertation research under the direction of Jeremy Marzuola, a senior faculty member at the University of North Carolina.

Sincerely yours,

Roy Goodman