



## Martin Almquist

Postdoctoral Research Fellow, Geophysics

### Bio

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#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Uppsala Universitet (2017)
- Master of Science in Engr, Uppsala Universitet (2012)

### Publications

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#### PUBLICATIONS

- **Non-stiff boundary and interface penalties for narrow-stencil finite difference approximations of the Laplacian on curvilinear multiblock grids** *JOURNAL OF COMPUTATIONAL PHYSICS*  
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- **Poroelectric effects destabilize mildly rate-strengthening friction to generate stable slow slip pulses** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*  
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- **Tsunami Wavefield Reconstruction and Forecasting Using the Ensemble Kalman Filter** *GEOPHYSICAL RESEARCH LETTERS*  
Yang, Y., Dunham, E. M., Barnier, G., Almquist, M.  
2019; 46 (2): 853–60
- **ORDER-PRESERVING INTERPOLATION FOR SUMMATION-BY-PARTS OPERATORS AT NONCONFORMING GRID INTERFACES** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*  
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2019; 41 (2): A1201–A1227
- **Boundary optimized diagonal-norm SBP operators** *JOURNAL OF COMPUTATIONAL PHYSICS*  
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- **A high-order accurate embedded boundary method for first order hyperbolic equations** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Mattsson, K., Almquist, M.  
2017; 334: 255–79
- **MULTILEVEL LOCAL TIME-STEPPING METHODS OF RUNGE-KUTTA-TYPE FOR WAVE EQUATIONS** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*  
Almquist, M., Mehlín, M.  
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- **Realization of adiabatic Aharonov-Bohm scattering with neutrons** *PHYSICAL REVIEW A*  
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- **Atmospheric Sound Propagation Over Large-Scale Irregular Terrain** *JOURNAL OF SCIENTIFIC COMPUTING*  
Almquist, M., Karasalo, I., Mattsson, K.  
2014; 61 (2): 369–97
- **Optimal diagonal-norm SBP operators** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Mattsson, K., Almquist, M., Carpenter, M. H.  
2014; 264: 91–111
- **High-fidelity numerical solution of the time-dependent Dirac equation** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Almquist, M., Mattsson, K., Edvinsson, T.  
2014; 262: 86–103
- **A solution to the stability issues with block norm summation by parts operators** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Mattsson, K., Almquist, M.  
2013; 253: 418–42