

CRC Workshop Time Integration of PDEs

October 9 - 13, 2023

Participants and Talks

1. Azocar Dannemann, Francisca
2. Becker, Klara
3. Buchholz, Tim (45')
Convergence analysis of the domain splitting scheme for the linear wave equation
4. Burkhard, Selina (30')
Numerical discretization of wave equations with retarded material laws
5. Dörich, Benjamin (45' or 30')
Discrete minimizers of the Ginzburg-Landau equation in the high κ regime
6. Dörner, Julian (30')
Discontinuous Galerkin Discretization for Maxwell Equations with Inhomogeneous Interface Conditions
7. Eckhardt, Daniel (30')
Numerical homogenization for nonlinear damped wave equations
8. Grimm, Volker (30')
A rational Krylov subspace method for ill-posed problems
9. Hochbruck, Marlis (30')
Higher order locally implicit methods for linear Maxwell equations
10. Kirn, Michael (30')
Numerische Verfahren für die nichtlinearen Dirac Gleichungen
11. Krumbiegel, Felix (30')
High-order multiscale methods for the heterogeneous wave equation
12. Maier, Roland (30' or 45')
Lokalisierte implizite Zeitschrittverfahren für die Wellengleichung
13. Mödl, Johanna (30')
Numerische Methoden für die Ausbreitung hoch-oszillatorischer Wellen
14. Neher, Markus (30')
On φ -functions
15. Nick, Jörg (30')
Fast and oblivious convolution quadrature based on piecewise polynomial interpolation
16. Ruff, Maximilian (45')
Lie splitting for semilinear wave equations at H^1 regularity
17. Scheifinger, Malik (30')
Implementierung Gaußscher Wellenpakete für die magnetische Schrödinger-Gleichung

Program (as of October 5, 2023)

Monday, October 9	
13:00–16:30	Arrival
16:45–17:35	Vorträge von Freitag Vormittag, falls Montag keine Wanderung stattfindet
17:35–18:10	
18:10–18:30	Welcome
18:30–20:00	Dinner
20:00–20:35	Vorträge von Mittwoch Abend, falls Montag keine Wanderung stattfindet
20:35–21:10	

Tuesday, October 10		
07:45–09:00		Breakfast
09:15–10:05	Buchholz, Tim	Convergence analysis of the domain splitting scheme for the linear wave equation
10:05–10:55	Maier, Roland	Lokalisierte implizite Zeitschrittverfahren für die Wellengleichung
10:55–11:15		Break
11:15–11:50	Burkhard, Selina	Numerical discretization of wave equations with retarded material laws
11:50–12:25	Nick, Jörg	Fast and oblivious convolution quadrature based on piecewise polynomial interpolation
		Lunch package
13:30–16:15		Free for activities and discussions
16:15–16:50	Scheifinger, Malik	Implementierung Gaußscher Wellenpakete für die magnetische Schrödinger-Gleichung
16:50–17:25	Neher, Markus	On φ -functions
17:25–17:45		Break
17:45–18:20	Dörner, Julian	Discontinuous Galerkin Discretization for Maxwell Equations with Inhomogeneous Interface Conditions
18:30–20:00		Dinner

Wednesday, October 11		
07:45–09:00		Breakfast
09:15–18:00		Hike
18:30		Dinner
20:00–20:35	Eckhardt, Daniel	Numerical homogenization for nonlinear damped wave equations
20:35–21:10	Krumbiegel, Felix	High-order multiscale methods for the heterogeneous wave equation

Thursday, October 12		
07:45–09:00		Breakfast
09:15–10:05	Ruff, Maximilian	Lie splitting for semilinear wave equations at H^1 regularity
10:05–10:40	Hochbruck, Marlis	Higher order locally implicit methods for linear Maxwell equations
10:40–11:00		Break
11:00–11:35	Mödl, Johanna	Numerische Methoden für die Ausbreitung hochoszillatorischer Wellen
11:35–12:10	Kirn, Michael	Numerische Verfahren für die nichtlinearen Dirac Gleichungen
		Lunch package
		Free for activities and discussions
18:30–20:00		Dinner

Friday, October 13		
07:45–09:00		Breakfast
09:00–09:15		Checkout
09:15–10:05	Dörich, Benjamin	Discrete minimizers of the Ginzburg-Landau equation in the high κ regime
10:05–10:40	Grimm, Volker	A rational Krylov subspace method for ill-posed problems
		Lunch package
		Activities and departure