

Publications

Preprints (submitted)

21. Roland Donninger, Birgit Schörkhuber and Alexander Wittenstein. *Stable blowup for supercritical wave maps into perturbed spheres*. arXiv:2503.04425.
20. Roland Donninger and Birgit Schörkhuber. *Self-similar blowup for the cubic Schrödinger equation*. arXiv:2406.16597.
19. Po-Ning Chen, Michael McNulty, Birgit Schörkhuber. *Singularity formation for the higher dimensional Skyrme model in the strong field limit*. arXiv:2310.07042.

Publications in peer-reviewed journals

18. Irfan Glogić, Sarah Kistner and Birgit Schörkhuber.
Existence and stability of shrinkers for the harmonic map heat flow in higher dimensions
Calculus of Variations and Partial Differential Equations (2024), no. 4, Paper No. 96, 33 pp.
17. Irfan Glogić and Birgit Schörkhuber.
Stable singularity formation for the Keller-Segel system in three dimensions
Archive for Rational Mechanics and Analysis, 248, 4 (2024).
16. Po-Ning Chen, Roland Donninger, Irfan Glogić, Michael McNulty, Birgit Schörkhuber.
Co-dimension one stable blowup for the quadratic wave equation beyond the light cone
Communications in Mathematical Physics, 405, 34 (2024).
15. Elek Csobo, Irfan Glogić and Birgit Schörkhuber.
On blowup for the supercritical quadratic wave equation
Analysis & PDE, Vol. 17 (2024), No. 2, 617–680.
14. Irfan Glogić and Birgit Schörkhuber.
Co-dimension one stable blowup for the supercritical cubic wave equation
Advances in Mathematics, 390 (2021), Paper No. 107930, 79 pp.
13. Pawel Biernat, Roland Donninger and Birgit Schörkhuber.
Hyperboloidal similarity coordinates and a globally stable blowup profile for supercritical wave maps.
International Mathematics Research Notices (2021), no. 21, 16530–16591.
12. Irfan Glogić and Birgit Schörkhuber.
Nonlinear stability of homothetically shrinking Yang-Mills solitons in the equivariant case
Communications in Partial Differential Equations, (2020), 45:8, 887-912.

11. Irfan Glogić, Maciej Maliborski and Birgit Schörkhuber.
Threshold for blowup for the supercritical cubic wave equation.
Nonlinearity, 33 (2020), no. 5, 2143–2158.
10. Roland Donn timer and Birgit Schörkhuber.
Stable blowup for the supercritical Yang-Mills heat flow.
Journal of Differential Geometry, Vol. 113, no. 1 (2019), pp. 55-94.
9. Pawel Biernat, Roland Donn timer and Birgit Schörkhuber.
Stable self-similar blowup in the supercritical heat flow of harmonic maps.
Calculus of Variations and Partial Differential Equations (2017), 56:171.
8. Roland Donn timer and Birgit Schörkhuber.
Stable blowup for wave equations in odd space dimensions.
Annales de l'Institut Henri Poincaré (C) Nonlinear Analysis (2017), 34:1181-1213.
7. Roland Donn timer and Birgit Schörkhuber.
On blowup in supercritical wave equations.
Communications in Mathematical Physics, 346 (2016), no. 3, 907-943.
6. Roland Donn timer and Birgit Schörkhuber.
A spectral mapping theorem for perturbed Ornstein-Uhlenbeck operators on $L^2(\mathbb{R}^d)$.
Journal of Functional Analysis (2015), 268(9):2479-2524.
5. Roland Donn timer and Birgit Schörkhuber.
Stable blow up dynamics for energy supercritical wave equations.
Transactions of the American Mathematical Society (2014) 366, No. 4, p. 2167-2189.
4. Birgit Schörkhuber, Thomas Meurer and Ansgar Jüngel.
Flatness of semilinear parabolic PDEs - A generalized Cauchy-Kowalevski approach.
IEEE Transactions on Automatic Control (2013), Vol. 58, No. 9, p. 2277-2291.
3. Birgit Schörkhuber, Thomas Meurer and Ansgar Jüngel.
Flatness-based trajectory planning for semilinear parabolic PDEs.
Proceedings of the 51st IEEE Conference on Decision and Control (2012) p. 3538 - 3543.
2. Roland Donn timer and Birgit Schörkhuber.
Stable self-similar blow up for energy subcritical wave equations.
Dynamics of Partial Differential Equations (2012) Vol. 9, No. 1, p. 63-87.
1. Roland Donn timer, Birgit Schörkhuber and Peter C. Aichelburg.
On stable self-similar blow up for equivariant wave maps - The linearized problem.
Annales Henri Poincaré (2012) Vol. 13, No. 1, p. 103-144.

Oberwolfach Reports

1. Birgit Schörkhuber. *Singularity formation for the three-dimensional Keller-Segel system.*
Oberwolfach Reports 19 (30/2022)/2, p. 1703 - 1706.

2. Birgit Schörkhuber. *Non-trivial self-similar blowup for the focusing energy-supercritical wave equation*.
Oberwolfach Reports (5/2019), p. 387-389.

Thesis

1. Birgit Schörkhuber. *Stable blow up dynamics for the radial wave equation with focusing power type nonlinearities*, Vienna University of Technology, 2013.