

Publications

Roland Donninger

Publications in peer-reviewed journals

1. Roland Donninger and David Wallauch. Optimal blowup stability for three-dimensional wave maps. *Analysis & PDE* 18(4):895–962, 2025.
<https://doi.org/10.2140/apde.2025.18.895>
2. Roland Donninger. Spectral theory and self-similar blowup in wave equations. *American Mathematical Society. Bulletin. New Series* 61(4):650–685, 2024.
<https://doi.org/10.1090/bull/1845>
3. Po-Ning Chen, Roland Donninger, Irfan Glogić, Michael McNulty, and Birgit Schörkhuber. Co-dimension one stable blowup for the quadratic wave equation beyond the light cone. *Communications in Mathematical Physics* 405(2), 2024.
<https://doi.org/10.1007/s00220-023-04888-2>
4. Roland Donninger and Matthias Ostermann. A globally stable self-similar blowup profile in energy supercritical Yang-Mills theory. *Communications in Partial Differential Equations* 48(9):1148–1213, 2023.
<https://doi.org/10.1080/03605302.2023.2263208>
5. Roland Donninger and David Wallauch. Optimal blowup stability for supercritical wave maps. *Advances in Mathematics* 433, 2023.
<https://doi.org/10.1016/j.aim.2023.109291>
6. Paweł Biernat, Roland Donninger, and Birgit Schörkhuber. Hyperboloidal similarity coordinates and a globally stable blowup profile for supercritical wave maps. *International Mathematics Research Notices* 21:16530–16591, 2021.
<https://doi.org/10.1093/imrn/rnz286>
7. Roland Donninger and David Wallauch. Blowup behavior for strongly perturbed wave equations. *Journal of Differential Equations* 274:306–344, 2021.
<https://doi.org/10.1016/j.jde.2020.11.012>
8. Roland Donninger and Irfan Glogić. Strichartz estimates for the one-dimensional wave equation. *Transactions of the American Mathematical Society* 373(6):4051–4083, 2020.
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9. Roland Donninger and Ziping Rao. Blowup stability at optimal regularity for the critical wave equation. *Advances in Mathematics* 370, 2020.
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<https://doi.org/10.1137/18M1216031>
11. Roland Donninger and Birgit Schörkhuber. Stable blowup for the supercritical Yang-Mills heat flow. *Journal of Differential Geometry* 113(1):55–94, 2019.
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12. Athanasios Chatzikaleas and Roland Donninger. Stable blowup for the cubic wave equation in higher dimensions. *Journal of Differential Equations* 266(10):6809–6865, 2019.
<https://doi.org/10.1016/j.jde.2018.11.016>
13. Roland Donninger and Irfan Glogić. On the existence and stability of blowup for wave maps into a negatively curved target. *Analysis & PDE* 12(2):389–416, 2019.
<https://doi.org/10.2140/apde.2019.12.389>
14. Paweł Biernat and Roland Donninger. Construction of a spectrally stable self-similar blowup solution to the supercritical corotational harmonic map heat flow. *Nonlinearity* 31(8):3543–3566, 2018.
<https://doi.org/10.1088/1361-6544/aabe4c>
15. Roland Donninger and Birgit Schörkhuber. Stable blowup for wave equations in odd space dimensions. *Annales de l'Institut Henri Poincaré - Analyse Non Linéaire* 34:1181–1213, 2017.
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16. Paweł Biernat, Roland Donninger, and Birgit Schörkhuber. Stable self-similar blowup in the supercritical heat flow of harmonic maps. *Calculus of Variations and Partial Differential Equations* 56(6):171, 2017.
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17. Athanasios Chatzikaleas, Roland Donninger, and Irfan Glogić. On blowup of corotational wave maps in odd space dimensions. *Journal of Differential Equations* 263(8):5090–5119, 2017.
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19. Matthew Creek, Roland Donninger, Wilhelm Schlag, and Stanley Snelson. Linear stability of the Skyrmion. *International Mathematics Research Notices* 8:2497–2537, 2017.
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20. Annegret Y. Burtscher and Roland Donninger. Hyperboloidal evolution and global dynamics for the focusing cubic wave equation. *Communications in Mathematical Physics* 353(2):549–596, 2017.
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Other

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