

Bibliography

Sergiu Klainerman

May 31, 2022

1. *On the uniqueness of the Goursat problem*, Review Roumaine XXII, No. 4, 1977.
2. *Global existence to nonlinear wave equations*, Communications on Pure and Applied Mathematics, **33** (1980), 43-101.
3. (with A. Majda) *Formation of singularities for nonlinear wave equations including the equations of a nonlinear vibrating string*, Communications on Pure and Applied Mathematics, **33** (1980), 242-263.
4. *Loss of decay for a nonlinear Schrödinger equations*, preprint.
5. (with A. Majda) *Singular limits of quasilinear hyperbolic systems with large parameters and the incompressible limit of compressible fluids*, Communications on Pure and Applied Mathematics, **34** (1981), 481-524.
6. (with A. Majda) *Compressible and incompressible fluids*, Communications on Pure and Applied Mathematics, **35**, (1982), 629-651.
7. *Long time behavior of solutions to nonlinear evolution equations*, Arch. Rat. Mech. Anal., **278** (1982), 73-98.
8. *Classical solutions to nonlinear wave equations and nonlinear scattering*, Trends in Appl. of Pure Math. to Mech., R.J. Knops (ed), Pitman, 1979.
9. (with P. Sarnak) *Explicit solutions to $\square u = 0$ on the Friedman-Robertson-Walder Space-Times*, Ann. Inst. H. Poincare, **35** (1981), 253-257.

10. (with G. Ponce) *Global, small amplitude solutions to nonlinear evolution equations*, Communications on Pure and Applied Mathematics, **36** (1983), 133-140.
11. *On almost global solutions to quasilinear wave equations in three space dimensions*, Communications on Pure and Applied Mathematics, **36** (1983), 325-344.
12. *Weighted L^∞ and L^1 estimates for solutions to the classical wave equations in three space dimensions*, Communications on Pure and Applied Mathematics, **37** (1984), 269-288.
13. (with F. John) *Almost global existence to general nonlinear wave equations in three space dimensions*, Communications on Pure and Applied Mathematics, **37** (1984), 443-455.
14. *Long time behavior of solutions to nonlinear wave equations*, "Proceedings of the ICM," (Warsaw, 1982), 1209-1215.
15. *Uniform decay estimates and the Lorentz invariance of the classical wave equations*, Communications on Pure and Applied Mathematics, **38** (1985), 321-332.
16. *Global existence for nonlinear Klein-Gordon equations in three space dimensions*, Communications on Pure and Applied Mathematics, **38** (1985), 631-641.
17. *The Null Condition and global existence to nonlinear wave equations*, Lect. in Appl. Math., **23**, (1986) 293-326.
18. *Remarks on the global Sobolev inequalities*, Communications on Pure and Applied Mathematics, Vol. 40, 111-117 (1987).
19. *Einstein geometry and hyperbolic equations*, "Proc. of the International Conference in P.D.E.'s," (Madison, 1985).
20. *Initial amplification of vorticity for the general Green-Taylor initial data*, (Princeton preprint), (1987).
21. (with D. Christodoulou) *Asymptotic properties of linear field theories in Minkowski space*, Communications on Pure and Applied Mathematics, Vol. 43, 137-199 (1990).

22. (with D. Christodoulou) *The nonlinear gravitational stability of Minkowski space*, Princeton Math Series **41**, Princeton University Press, Princeton N.J. (1993), x+514 pp. ISBN: 0-691-08777-6.
23. *Remark on the Asymptotic Behavior of The Klein Gordon Equation in \mathbb{R}^{n+1}* , C.P.A.M., Vol. 46, 137-144 (1993).
24. (with M. Ben-Artzi) *Decay and Regularity for the Schrödinger Equation*, J. Anal. Math. **58** (1992), 25-37.
25. (with M. Machedon) *Space-Time Estimates for Null Forms and the Local Existence Theorem*, Communications on Pure and Applied Mathematics, Vol. 46, 1221-1268, (1993).
26. "Mathematical Theory of Classical Fields and General Relativity," Math. Physics X, Proc., Leipzig, Germany 1991, 213-237, Springer-Verlag.
27. "On the Mathematical Theory of Classical Fields and General Relativity," General Relativity and Gravitation 1992, 101-119, Institute of Physics Publishing.
28. (with M. Machedon) *On the Regularity Properties of the Wave Equation*, Proceedings of the International Colloquium in Honour of Y. Charquet-Bruhat, Physics on Manifolds, 177-193, Math. Physics Studies **15**, Kluwer Acad. Publishers.
29. (with M. Machedon) *Finite Energy Solutions of the Maxwell-Klein-Gordon Equations*, Duke Math. Journal, Vol. 74, 19-44 (1994).
30. (with M. Machedon) *Finite Energy Solutions for the Yang-Mills Equations in \mathbb{R}^{1+3}* , Annals of Math., Vol. 142, (1995), 39-119.
31. (with M. Machedon) *Smoothing Estimates for Null Forms and Applications*, Duke Math. Journal, Vol. 81, **1**, (1995), 99-133.
32. (with T. Sideris) *On Almost Global Existence for Nonrelativistic Wave Eqts. in 3-D*, Communications on Pure and Applied Mathematics, Vol. 49, (1996), 307-321.
33. (with M. Machedon) *Smoothing Estimates for Null Forms and Applications*, Int. Math. Res. Notices, (1994), 383-389.
34. (with M. Machedon) *Remark on Strichartz Type Ineq.*, Int. Math. Res. Notices, **5**, (1996), 201-220.

35. (with M. Machedon) *On the Regularity Properties of a Model Problem Related with Wave Maps*, Duke Math Journal, Vol. 87, No 3, (1997), 553-589.
36. (with M. Machedon) *Estimates for null forms and the spaces $H_{s,\delta}$* , Int. Math. Res. Notices (1996), **17**, 853-865.
37. (with S. Selberg) *Remark on the optimal regularity for equations of Wave Maps type*, Comm. in P.D.E's, Vol. 22 (5 & 6), (1997), 901-918.
38. (with M. Machedon) *On the optimal local regularity for gauge field theories*, J.D.E., Vol 10, **6**, November 1997, 1019-1030.
39. (with D. Tataru) *On the optimal local regularity for the Yang-Mills equations in \mathbb{R}^{4+1}* , Journal of AMS, Vol 12, **1** 1999, 93-116.
40. *On the work and Legacy of F. John, 1934-1991*, Comm. Pure. Appl. Math., Vol 51, (1998), 0991-1017.
41. (with M. Machedon) *On the algebraic properties of the $H_{s/2,1/2}$ spaces*, Int. Math. Res. Notices, No. 15 (1998), 765-774.
42. *Fourier Analysis and Nonlinear Wave Equations*, Proc. of Symposia in Appl Math., Vol. 54, (1998).
43. (with D. Foschi) *Bilinear space-time estimates for homogeneous wave equations*, Ann.Sci. École.Norm.Sup (4) **33** (2000). no 2, 211-274.
44. (with F. Nicolo) *On local and global aspects of the Cauchy problem in general relativity*, Class. Quantum, Grev. **16**, (1999), R73-R157.
45. *PDE as a unified subject*, Proceeding of Visions in Mathematics, GAFA 2000(Tel Aviv 1999). Geom Funct. Anal. 2000, Special Volume , Part 1, 279-315.
46. *A comuting vectorfield approach to Strichartz type inequalities and applications to quasi-linear wave equations*, International Mathematics Research Notices, 2001 no 5.
47. (with S. Selberg) *Bi-linear Estimates and Applications to Non-linear Wave Equations*, Communications in Contemporary Mathematics, **4** (2002), no 2, 223-295.
48. (with I. Rodnianski) *Improved local well-posedness for quasi-linear wave equations in dimension three*, Duke Math. Journal, **117** (2003), no 1 , 1-124.

49. (with I. Rodnianski) *On the global regularity of wave maps in the critical Sobolev norm*, *International Mathematics Research Notices*, 2001, no 13, 655-677.
50. (with G. Staffilani) *A new approach to the Maxwell-Vlasov equations*, *Communications Pure and Applied Analysis* **1** (2002), 103-125.
51. (with I. Rodnianski and T. Tao) *A physical space approach to bilinear wave equations estimates*, *J. Anal. Math.* **87** (2002), 299-336.
52. (with F. Nicolo) *The evolution problem in General Relativity*, *Progress in Mathematical Physics* **25** Birkhouser Boston Inc, Boston, MA, 2003. xiv+385 pp. ISBN: 0-8176-4254-4.
53. (with I. Rodnianski) *Rough solutions to the Einstein vacuum equations* *C.R. Math. Acad. Sci. Paris* **334** (2002), no 2, 125-130. 2002.
54. (with I. Rodnianski) *Rough solutions to the Einstein vacuum equations*, *Annals of Mathematics*, **161** (2005), 1143-1193
55. (with I. Rodnianski) *The causal structure of microlocalized, rough, Einstein metrics*, *Annals of Mathematics*, **161** (2005), 1195-1243 .
56. (with I. Rodnianski) *Ricci defects of microlocalized rough Einstein metrics*, *Journ. of Nonlin. Hyperb. Eqts*,
57. (with F. Nicolo) *Peeling properties of asymptotic solutions to the Einstein vacuum equations*, *Classical Quantum Gravity* **20** (2003), no 14, 3215- 3257.
58. (with I. Rodnianski) *Causal geometry of Einstein vacuum space-times with finite curvature flux*, *Inventiones* **159** (2005), 437-529.
59. (with I. Rodnianski) *Sharp trace theorems on null hypersurfaces*, *GAF*, **16**, (2006) nr 1, 164-229.
60. (with I. Rodnianski) *A geometric version of Littlewood-Paley*, *GAF*, **16**, nr 1, 126-163.
61. (with I. Rodnianski) *Bilinear estimates on curved space-times*, *Journal of Hyperbolic Diff. Eqts.* vol 2, Nr 2 (2205), 279-291.
62. (with I. Rodnianski) *A Kirchoff-Sobolev parametrix for wave equations in a curved space-time.* , *Journ Hyperb. Diff. Eqts* **4**, Nr 3 (2007), 401-433

63. (with I. Rodnianski) *On the radius of injectivity of Null Hypersurfaces*, J. Amer. Math. Soc. 21 (2008) 775-795.
64. (with M. Machedon) *On the uniqueness of solutions to the Gross-Pitaewski hierarchy*, Communications in Mathematical Physics, Springer, vol. 279, no. 1, pp. 169-185, 2008.
65. *Partial Differential Equations*, Princeton Companion to Mathematics, editor T. Gowers, Princeton University Press, 2008.
66. (with I. Rodnianski) *Sharp L^1 estimates for singular transport equations* J. Eur. Math. Soc. (JEMS) 10 (2008), no. 2, 477-505.
67. (with A. Ionescu) *On the uniqueness of smooth, stationary black holes in vacuum*, Invent. Math. **175** (2009), 35–102.
68. (with A. Ionescu) *Uniqueness problems for ill posed characteristic problems in curved space-times*, Commun. Math. Phys. **285** (2009), 873–900.
69. (with I. Rodnianski) *On the break-down criterion in General Relativity*, J. Amer. Math. Soc. 23 (2010) 345-382.
70. (with S. Alexakis and A. Ionescu) *Hawking’s local rigidity theorem without analyticity*, Geom. Funct. Anal. **20** (2010), 845–869.
71. (with S. Alexakis and A. Ionescu) *Uniqueness of smooth stationary black holes in vacuum: small perturbations of the Kerr spaces*, Comm. Math. Phys. **299** (2010), 89–127.
72. *Linear Stability of Black Holes (following M. Dafermos and I. Rodnianski)*, Bourbaki seminar, November 2009.
73. (with I. Rodnianski) *On the formation of trapped surfaces*, Acta Mathematica, **208** (2012), 211- 333.
74. (with I. Rodnianski) *On emerging of scarred surfaces for the Einstein vacuum equations*, Discrete Contin. Dyn. Syst. 28 (2010), no. 3, 1007-1031
75. (with A. Ionescu) *On the local extension of Killing vectorfields in Ricci flat manifolds*, arXiv:1108.3575, J. Amer. Math. Soc. 26 (2013), 563-593.

76. (with I. Rodnianski and J. Szeftel) *The bounded L^2 curvature conjecture*, Inventiones, October 2015, Volume 202, Issue 1, pp 91-216.
77. (with I. Rodnianski and J. Szeftel) *Overview of the proof of the bounded L^2 curvature conjecture*, preprint, arXiv:1204.1772
78. (with J. Luk and I. Rodnianski) *A Fully Anisotropic Mechanism for Formation of Trapped Surfaces in Vacuum*, Inventiones, Volume 198, Issue 1 (2014), Page 1-26
79. (with S. Alexakis and A. Ionescu) *Rigidity of stationary black holes with small angular momentum on the horizon*, Duke Math. Journ. Volume 163, Number 14 (2014), 2603-2615.
80. (with G. Holzegel, J. Speck, W. Wong), *Shock Formation in Small-Data Solutions to 3D Quasilinear Wave Equations: An Overview*, J. Hyper. Differential Equations 13, 1 (2016), arXiv:1407.6276.
81. (with A. Ionescu) *On the global stability of the wave-map equation in Kerr spaces with small angular momentum*, preprint 2014, arXiv:1412.5679. Annals of PDE 1, 1-78 (2015).
82. (with A. Ionescu) *Rigidity results in General Relativity: A review*, Surveys in Differential Geometry 20, 123 - 156, 2015.
83. *On Nash's unique contribution to Analysis in just three of his papers* Bull. AMS, 54. 2, April 2017, 283-305
84. (with J. Szeftel) *Global Nonlinear Stability of Schwarzschild Spacetime under Polarized perturbations-Version 1*, arXiv:1711.07597, Nov 2017.
85. (with Qian Wang and Shiwu Yang) *Global solution for massive Maxwell-Klein-Gordon equations*, Comm. Pure and Applied Math, 23 August 2019, <https://doi.org/10.1002/cpa.2186> and arXiv:1801.10380.
86. (with J. Szeftel) *Global Nonlinear Stability of Schwarzschild Spacetime under Polarized perturbations*, arXiv:1711.07597, Dec 2018. Annals of Math. Studies, 2020.
87. (with J. Szeftel) *Construction of GCM spheres in perturbations of Kerr*, arXiv:1911.00697, Nov 2019. Submitted to Annals of PDE
88. (with J. Szeftel) *Effective results on uniformization and intrinsic GCM spheres in perturbations of Kerr*, arXiv:1912.12195, Dec 2019. Submitted to Annals of PDE.

89. (with E. Giorgi and J. Szeftel) *A General Formalism for the stability of Kerr*, arXiv:2002.0274, Feb. 2020.
90. (with J. Szeftel) *Kerr stability for small angular momentum*, ArXiv:2104.11857v1, April 2021.
91. (with E. Giorgi and J. Szeftel) *Wave equations estimates and the non-linear stability of slowly rotating Kerr black holes*, arXiv:2205.14808v1, May 2022.

May 31, 2022