

Estabilidad de ecuaciones diferenciales

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Temario

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6. Estabilidad de ondas solitarias para ecuaciones de Dirac

Bibliografía

- [1] D. ALDUNATE, J. RICAUD, E. STOCKMEYER, AND H. VAN DEN BOSCH, *Results on the spectral stability of standing wave solutions of the Soler model in 1-D*, Commun. Math. Phys., 401 (2023), pp. 227–273.
- [2] J. ANGULO PAVA, *Nonlinear dispersive equations. Existence and stability of solitary and periodic travelling wave solutions.*, vol. 156 of Math. Surveys Monogr., American Mathematical Society, Providence, RI, 2009.
- [3] N. BOUSSAÏD AND A. COMECH, *Nonlinear Dirac Equation: Spectral Stability of Solitary Waves*, vol. 244 of Math. Surveys Monogr., American Mathematical Society, Providence, RI, 2019.
- [4] T. CAZENAVE, *Semilinear Schrödinger equations*, vol. 10 of Courant Lect. Notes Math., American Mathematical Society & Courant Institute of Mathematical Sciences, New York, 2003.
- [5] ———, *An overview of the nonlinear Schrödinger equation*. Lecture notes. <http://cazenavet.free.fr/>, 2021.
- [6] S. CUCCAGNA, *A survey on asymptotic stability of ground states of nonlinear Schrödinger equations II*, Discrete Contin. Dyn. Syst. Ser. S, 14 (2021), pp. 1693–1716.
- [7] Y. L. DALETS’KYI AND M. G. KREĬN, *Stability of Solutions of Differential Equations in Banach Space*, vol. 43 of Transl. Math. Monogr., American Mathematical Society, Providence, RI, 1974. Translated from the Russian by S. Smith.
- [8] T. KAPITULA AND K. PROMISLOW, *Spectral and Dynamical Stability of Nonlinear Waves*, vol. 185 of Appl. Math. Sci., Springer, New York, NY, 1 ed., 2013.
- [9] B. SANDSTEDE, *Stability of travelling waves*, in *Handbook of Dynamical Systems*, B. Fiedler, ed., vol. 2, Elsevier Science, Amsterdam, 2002, pp. 983–1055.
- [10] T. TAO, *Nonlinear Dispersive Equations: Local and Global Analysis*, vol. 106 of CBMS Reg. Conf. Ser. Math., American Mathematical Society, Providence, RI, 2006.