Ann. Sc. Norm. Super. Pisa Cl. Sci. (5)
Vol. XXII (2021), 1937-2038

Smooth branch of travelling waves for the Gross-Pitaevskii equation in $\mathbb{R}^2$ for small speed

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Abstract. We construct a smooth branch of travelling wave solutions for the 2-dimensional Gross-Pitaevskii equations for small speed. These travelling waves exhibit two vortices far away from each other. We also compute the leading order term of the derivatives with respect to the speed. We construct these solutions by an implicit function type argument.

Mathematics Subject Classification (2020): 35C07 (primary); 35B20; 35Q40; 35Q56 (secondary).