On the planar Schrödinger-Poisson system with zero mass potential

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Abstract

In this paper, we prove that the following planar Schrödinger-Poisson system with zero mass $-\Delta u + \varphi u = f(u)$, $x[?]R^2$, $\Delta \varphi = 2\pi u^2$, $x[?]R^2$, admits a nontrivial radially symmetric solution under weaker assumptions on f by using some new analytical approaches.

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