

Stationary Kirchhoff equations involving critical growth and vanishing potential

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Abstract. We establish the existence of positive solutions for a class of stationary Kirchhoff-type equations defined in the whole \mathbb{R}^3 involving critical growth in the sense of the Sobolev embedding and potentials, which may decay to zero at infinity. We use minimax techniques combined with an appropriate truncated argument and a priori estimate. These results are new even for the local case, which corresponds to nonlinear Schrödinger equations.