

# SEMINÁRIO DE ANÁLISE

## Existence of positive solution for a planar Schrödinger-Poisson system with exponential growth

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**Abstract.** In this paper we prove the existence of a positive solution with minimal energy for a planar Schrödinger-Poisson system, where the nonlinearity is a continuous function with exponential critical growth. We find this solution using minimization technique on the Nehari manifold.

### References

- [1] S. Cingolani and T. Weth, *On the planar Schrödinger-Poisson system*, Ann. I. Poincaré-AN, vol. 33, issue 1, (2016), 169-197.
- [2] M. Du and T. Weth, *Ground states and high energy solutions of the planar Schrödinger-Poisson system*. Nonlinearity 30 (2017), 3492-3515.
- [3] J. Stubbe, *Bound states of two-dimensional Schrödinger-Newton equations*, arXiv:0807.4059v1, 2008.