



# SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

**Strongly indefinite systems with critical growth**

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**Abstract:** We discuss the existence of positive solutions for some classes of superquadratic Hamiltonian elliptic systems in dimension two involving critical growth, which lead to the study of strongly indefinite functionals. We give particular attention to the existence of ground state solutions. Our proofs are based on variational methods, precisely we use the method of generalized Nehari manifold for functionals whose quadratic part has the origin as a saddle point with infinite Morse index.