

DEPARTMENT OF MATHEMATICS AND STATISTICS

MISSISSIPPI STATE UNIVERSITY

COLLOQUIUM

Critical point theory and non-autonomous second order Hamiltonian systems

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Abstract. In this talk, we will give a very short survey of critical point theory, and we prove some existence and multiplicity of periodic solutions for non-autonomous second order Hamiltonian systems with sublinear nonlinearity by using the least action principle and minimax methods in critical point theory. We also introduce some new superquadratic conditions, and some existence theorems are obtained for a class of non-autonomous second order Hamiltonian systems with local superquadratic potential, by making use of the generalized mountain pass theorem.