OHIO UNIVERSITY
DEPARTMENT OF MATHEMATICS

COLLOQUIUM

ABSTRACT

We consider a nonlinear elliptic problem driven by the p-Laplacian and depending on a parameter $\l>0$. The right hand side nonlinearity is concave (i.e., p-sublinear) near the origin. For such problems we prove two multiplicity results: the first one, when the right hand side nonlinearity is p-linear near infinity, and the second when it is p-superlinear. Both results show that there exists $\hat{\l}_0>0$ such that the problem has five nontrivial solutions (two positive, two negative and one nodal), if the parameter $\l\in (0, \hat{\l}_0)$. We also study the case $\l=\hat{\l}_0$.

Multiplicity of solutions for parametric p-Laplacian equations with a concave nonlinearity near the origin

Presented by:

Nikolaos Papageorgiou
National Technical University
Athens, Greece

Thursday, May 15th
4:10 pm
318 Morton Hall

Refreshments will be served in 325 Morton Hall at 3:30 pm

OHIO UNIVERSITY