1046-35-491   **Florin Catrina*** (`catrinaf@stjohns.edu`), 150-09 24th Ave, Whitestone, NY 11357. *Loss of Compactness for Nonlinear Elliptic PDE's.*

In this talk we discuss the existence of positive solutions for two families of nonlinear elliptic partial differential equations. We show the nonexistence of positive radial solutions by an energy balance argument, for nonlinear perturbations of two classical ODE's. These arise from the initial equations by symmetry reduction. The sharp cut-off between compactness and non-compactness ranges, help explain in part the role played by critical exponents in elliptic PDE's. (Received September 04, 2008)