1021-35-1   **Changfeng Gui***, University of Connecticut, Storrs. *Entire Solutions and Their Symmetries.*
In this talk, I will discuss various symmetries associated with entire solutions of certain partial differential equations and systems. Entire solutions usually arise in blow-up procedure, and are important in understanding solutions in general, in particular the singularities of general solutions. The symmetry of solutions, such as radial symmetry, transitional symmetry and symmetries with respect to discrete group actions, are indeed characteristic to the type of singularities. A survey of recent results on symmetry properties related to phase transition will be given. Existence of symmetric quadruple junction solutions for multiple phase separation will also be presented. (Received November 01, 2005)