Area Seminar

Title	Copositivity and boundedness of the scalar potential
Date and Time	05/06/2014 16:00:00
Speaker	Tanmoy Mondal PRL
Area	Theoretical Physics
Venue	Room No. 469
Abstract	There are experimental evidences that conclude that SM cannot be a complete theory of nature. Thus one needs to look for BSM physics. The BSM scenarios that include many scalar fields contain scalar potential with large number of quartic couplings. Due to the complicated structures of such scalar potentials it is indeed difficult to adjudge the stability of the vacuum. Thus one needs to formulate a proper prescription to compute the vacuum stability criteria. In this talk i will discuss the idea of copositive matrices to deduce the conditions that guarantee the boundedness of the scalar potential. As this idea is based on the mathematical arguments it evades the ambiguities while finding the stability criteria in the earlier used methods. It is also interesting to note that the copositive criteria allows us to find the stability conditions with larger parameter space.