1120-82-150   **Tayyab Nawaz*** (`tnawaz2@illinois.edu`), Room 250, 1409 W. Green Street, Urbana, IL 61801,
and **Kay Kirkpatrick**. *Non-normal asymptotics of the mean-field O(N)-models.*

I will discuss the mean-field classical N-vector models, for even integers $N \geq 2$. I will discuss current work with Kay Kirkpatrick on non-normal behavior in case of even dimensions at the phase transition. We used large deviations and Stein's method to study the typical behavior of asymptotics of physical quantities such as magnetization.Some of the important special cases for these N-vector models are XY model ($N = 2$) and Toy model ($N = 4$), both of which have importance in statistical physics. (Received February 19, 2016)