Contribution Title:

Authors: Presenting author: Affilation: E-mail: Invited speaker: YRS seminar:

RENORMALIZATION GROUP TRAJECTORIES BE-TWEEN TWO FIXED POINTS A. Abdesselam Abdesselam A. University of Virginia malek@virginia.edu Topical session NO

We will report on our recent rigorous construction of complete renormalization group trajectories between two fixed points for the three dimensional phi-four model with modified propagator considered by Brydges, Mitter and Scoppola (BMS). These are discrete critical trajectories which connect the ultraviolet Gaussian fixed point to the nontrivial BMS infrared fixed point which is an analogue of the Wilson-Fisher fixed point. The renormalization group map is defined rigorously and nonpertubatively, without using the hierarchical approximation. The trajectories are constructed by a fixed point argument in a suitable Banach space of sequences, where one perturbs a nonlinear one-dimensional iteration.