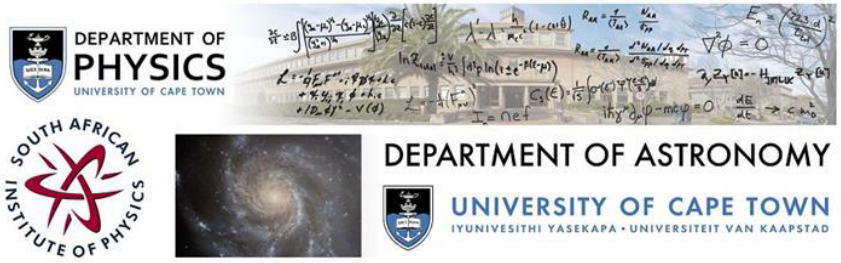

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Yang-Lee and Fisher zeros in a model of adsorbing self-avoiding walks

Tuesday, 5 July 2016 10:00 (20 minutes)

Abstract content
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The theory of Yang-Lee zeros and the Fisher edge singularity is an accepted and useful approach in the understanding of phase transitions in statistical physics. While there are numerous studies of Yang-Lee and Fisher zeros on lattice spin systems, such as the q-state Potts models and lattice field theories, much less is known about these zeros and their relation to phase transitions in models of lattice clusters (such as the self-avoiding walk). In this talk numerical results on Yang-Lee and Fisher zeros in a model of an adsorbing self-avoiding walk will be presented. This is a model of polymer adsorption, and the properties of the Yang-Lee and Fisher zeros will be considered on the one hand, while the relation of the zeros to the physics of model will be considered as well. This includes, for example, the location of the critical point and scaling in the model. The numerical results are based on estimated microcanonical data, which were obtained by sampling states in the partition function of the model using the GAS algorithm.

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