SEMPARIS – Séminaires en région parisienne

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Seminaire exceptionnel

Vendredi 27 Septembre 2019, 11 :00
LPTMC, LPTHE library, Jussieu, 4th floor, tower 13-14(séminaire commun LPTHE-LPTMC)
Domaines : cond-mat.mes-hall

Titre : *Convergence of Non-Perturbative Approximations to the Renormalization Group*

Orateur : **Nicolás Wschebor (Universidad de la República, Montevideo, Uruguay)**

Résumé : *We provide analytical arguments showing that a non-perturbative approximation scheme known as the derivative expansion is controlled by a small parameter for very generic model at thermodynanical equilibrium. This approximation must be implemented within the Non-Perturbative Renormalisation Group (a modern version of Wilson's renormalisation group) with a regulator profile properly chosen. We employ the Ising model in three dimensions as a testing ground of the general analysis. In this case the derivative expansion has been recently pushed at order fourth order. We find fast convergence of critical exponents to their exact values, in full agreement with our general arguments. We also analyze preliminary results by employing the same techniques for O(N) models.*