



ID de Contribution: 105

Type: **Lecture / lecture series**

## RG Flows in Coupled Replica CFTs

*vendredi 21 mai 2021 10:00 (1 heure)*

Consider  $M$  copies of the  $q$ -state Potts models and the  $O(n)$  models coupled through the bond-bond interaction. Non-trivial IR fixed points exist both in the disordered model (the replica limit  $M \rightarrow 0$ ) and in the unitary model (such as  $q=3$  with  $M=3, 4, 5, \dots$ ).

Conformal perturbation theory yields the critical exponents in the expansions in  $(q-2)$  or  $(1-n)$  around the  $M$ -coupled Ising CFTs in 2d, where the coupling is marginal. In addition, the RG flow generated by the Zamolodchikov  $C$ -function extracted from the transfer matrix can capture non-perturbative multicritical fixed points at  $M=0$ . The  $S$ -matrix and Monte Carlo method may also be used to explore the theory space. We also discuss some basic known results for  $M>2$ .

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