

Abstract Submitted for the Monday's seminar
Dept. of Physics @ SUNY

Sorting Category: Blue

CFT and Application — in 2-D Critical Ising Model

What I've done: 2-dimension conformal field theory (2-d conformal transformation, radial quantization, Virasoro algebra).

What I'd have done: CFT (Kac determinant, classification of unitary representation of Virasoro algebra) and statistical mechanics (2nd phase transition, critical point, analogy between QFT and Stat Mech, identification of Ising model and $c = \frac{1}{2}$ representation).

I've been mainly following Ginsparg's lecture notes (roughly the first 6 sections).

References

- [0] [1] Belavin, A., Polyakov, A. and Zamolodchikov, A., *Infinite conformal symmetry in two-dimensional quantum field theory*, Nuclear Physics B241 (1984) 333-380.
- [2] Ginsparg, P., *Applied conformal field theory* Les Houches Lectures, 1988,
- [3] Cardy. J., *Conformal invariance and statistical mechanics* Les Houches Lectures, 1988,

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Date submitted: AD 2010