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Generalized 2D Yang-Mills theories: Large-N limit and Phase Structure



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Abstract: After review the 2D Yang--Mills theories (YM_2) and its large--N behaviour, the Generalized 2D Yang--Mills theories (gYM_2) and their partition functions on a general two--dimensional Riemann surface are discussed. The large--N behaviour of these models is studied in weak regime, and in strong regime, we restrict ourselves to ϕ^4 gYM_2 . We show that this model has a third order phase transition, similar to ordinary YM_2 theory.



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