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Title: PT Phase transition: Applications

Abstract: In this talk I plan to review PT phase transition briefly and discuss its applications in two different branches of physics. In the first problem we realize that deconfinement to confinement phase transition in SU(N) QCD can be cast as PT phase transition [1]. In the later problem we show that classical DNA unzipping transition which is equivalently described by quantum mechanical localization-delocalization transition in the ground state of non-Hermitian Hatano-Nelson Hamiltonian is due to PT breaking transition [2].

References:

1. Deconfinement to confinement as PT phase transition, H Rawal, B P Mandal, Nuclear Physics B 949, 114699 (2019).
2. DNA Unzipping as **PT**-Symmetry Breaking Transition, T Pal, R Modak, B P Mandal, arXiv; 2212.14394.