

茨城大学素粒子論研究室セミナー

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日時：2019/6/24 (月) 12:00-13:00

場所：E-301

Title : Effective Potential for Revolving D-branes

Abstract : We quantize an open string stretched between D0-branes revolving around each other. The worldsheet theory is analyzed in a rotating coordinate system in which the worldsheet fields obey simple boundary conditions, but instead the worldsheet Lagrangian becomes nonlinear. We quantize the system perturbatively with respect to the velocity of the D-branes and determine the one-loop partition function of the open string, from which we extract the short-distance behavior of the effective potential for the revolving D0-branes. It is compared with the calculation of the partition function of open strings between D0-branes moving at a constant relative velocity.