

Ilka Brunner (LMU München)
Nils Carqueville (Universität Wien)
Hans Jockers (JGU Mainz)
Peter Mayr (LMU München)
Simone Noja (Universität Heidelberg)
Ivo Sachs (LMU München)
Johannes Walcher (Universität Heidelberg)

JOHANNES GUTENBERG
UNIVERSITÄT MAINZ



RIND seminar on Mathematical Physics and String Theory

June 20, 2022 at 4 p.m.
None

Joint seminar series on Mathematical Physics and String Theory

Heeyeon Kim
Rutgers U.

Path integral derivations of K-theoretic Donaldson invariants

We discuss path integral derivations of topologically twisted partition functions of 5d $SU(2)$ supersymmetric Yang-Mills theory on $M4 \times S^1$, where $M4$ is a smooth closed four-manifold. Mathematically, they can be identified with the K-theoretic version of the Donaldson invariants. In particular, we provide two different path integral derivations of their wall-crossing formula for $b_2^+(M4)=1$, first in the so-called U-plane integral approach, and in the perspective of instanton counting. We briefly discuss the generalization to $b_2^+(M4)>1$.

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