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Ivo Sachs (LMU München)  
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JOHANNES GUTENBERG  
UNIVERSITÄT MAINZ



# RIND seminar on Mathematical Physics and String Theory

Jan. 30, 2023 at 4 p.m. c.t.  
None

Joint seminar series on Mathematical Physics and String Theory

Konstantin Wernli  
University of Southern Denmark

## **On Globalization of Perturbative Partition Functions in the Batalin-Vilkovisky formalism**

In the Batalin-Vilkovisky (BV) formalism, one can define a perturbative (i.e. given by Feynman graphs and rules) partition function  $Z(x_0)$  for any choice of classical background (solution to Euler-Lagrange (EL) equations)  $x_0$ . In some examples one can extract from  $Z$  a volume form on the smooth part of the moduli space of solutions to EL equations, and compare its integral with non-perturbative approaches to quantization. I will review this construction, some results from examples in the literature and ongoing joint work with P. Mnev about the behaviour at singular points  $x_0$ .

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