Announcement

Seminar on Deformation Quantization

1. 4. 2022 at 2pm CEST

Hybrid Seminar in SE 31 and

`https://uni-wuerzburg.zoom.us/j/92529190594?pwd=WkJvR1o1QUdldUNSSjFJbHB4c0Z0dz09`

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Divergence is futile: Entire functions in strict Deformation Quantization

Despite the astonishing and far reaching mathematical triumphs of formal Deformation Quantization, there still remains a necessary step to be taken towards a physically applicable theory: Replacing the formal deformation parameter with Planck's constant. In this talk, we discuss one possible approach to *strict* Deformation Quantization, which is due to Waldmann. The principle idea is to show honest convergence of the formal power series with respect to a suitable topology. In practice, one typically proves continuity of the star product on some Poisson subalgebra directly, which solves the convergence problem on its completion. Notably, as a function of $\hbar$, the star product of two fixed elements may exhibit singularities. Both the construction of a suitable subalgebra and the dependence on $\hbar$ naturally lead to the theory of analytic functions. That is to say, complex analysis. We review several observable algebras of strict deformations and argue why they can be understood as incarnations of *entire functions* in their respective contexts.

Invited by Stefan Waldmann