

# Zajednički seminar

Znanstvenog centra izvrsnosti QuantiXLie  
i Fizičkog odsjeka

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### Signature of non-Markovianity in continuous-variable quantum systems

Usually, the dynamics of open quantum systems is modelled through Markovian processes, in which the open system continuously loses information to its surroundings. However, despite the enormous success of the Markovian approximation, the interest in non-Markovian processes is exponentially growing. Indeed, on one hand, it is not always possible to rely on simplifying assumptions such as weak coupling and factorization of the initial system-environment state. On the other, non-Markovianity can be exploited as a resource for quantum information tasks. After reviewing these concepts I discuss the problem of characterizing non-Markovianity for continuous-variable quantum systems. In particular, I present a reliable measure of non-Markovianity for quantum Gaussian channels. Moreover, I discuss its properties and its possible applications to quantum information science.



**Utorak, 7. 12. 2021., 15:15h**  
**Fizički odsjek, soba F-201**

Znanstveni centar izvrsnosti  
za kvantne i kompleksne sustave te  
reprezentacije Liejevih algebri

Projekt KK.01.1.1.01.0004

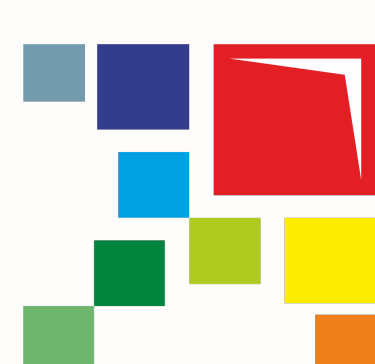
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Sadržaj ovog seminara isključiva je  
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