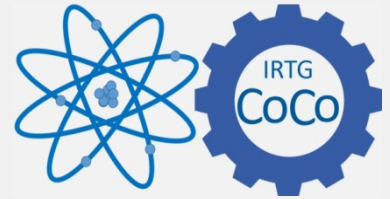


IRTG-Seminar



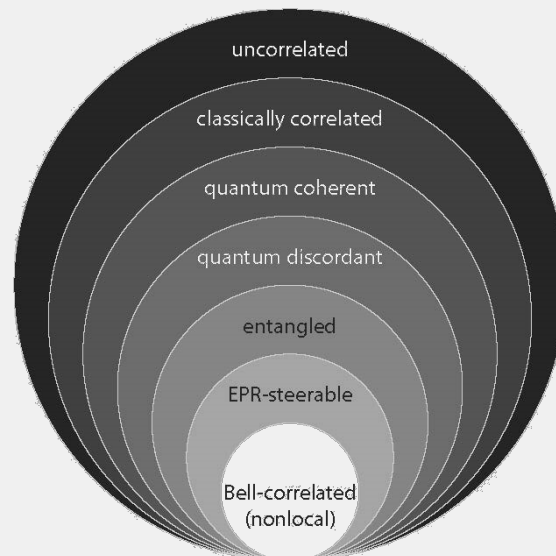
Prof. Dr. Roman Schmied

University of Freiburg

“From classical correlations to Bell inequalities”

Our understanding of the physical world is based on the observation of correlations between measurements. While most correlations are classical, there is an entire hierarchy of more subtle correlations in the quantum realm. Quantum correlations show us something about the world that classical correlations can't, for example that the world isn't locally causal.

I will survey the correlation hierarchy, from classical correlations through quantum entanglement to Bell correlations, and discuss specific practical applications. In particular, experimental results in Bose-Einstein condensates at Uni Basel are presented with an eye on quantum-technological developments.



**Tuesday, June 27, 2017, 1:00 p.m., HS II,
Physics high rise, Hermann-Herder-Str. 3**