



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
SEMINAR

Symmetry-Resolved Entanglement in AdS & BCFT

by

Dr. René MEYER
Faculty of Physics and Astronomy
Julius-Maximilians-Universität Würzburg, Germany

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Place: Rm G26, Science Centre North Block, CUHK

ALL INTERESTED ARE WELCOME

Abstract

I will discuss recent new examples providing new links between quantum information, holography and quantum gravity. I will first introduce a refinement of the usual entanglement entropy for theories with global conserved charges, the so-called symmetry resolved entanglement entropy, and discuss its implementation in AdS3/CFT2 (2012.11274, 2108.09210). I will in particular discuss the structure of entanglement in different charge sectors, which turns out trivial in theories with U(1) Kac-Moody symmetry. This property is called equipartition of entanglement. I will then discuss how W3 symmetric CFTs (2202.11111) break this equipartition property. Finally, I will present recent work (2212.09767) which employs boundary conformal field theory techniques to obtain exact results for the symmetry-resolved entanglement and in particular for the equipartition property in U(1) Kac-Moody symmetric CFTs.