Speaker: **Simon Brunner**

Title: **Curved Universes in Spin-1 Bose-Einstein Condensates**

Date: **Thursday, July 11th, 15:00 pm**

Place: **Seminar room 915**

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Abstract:

The analog gravity program deals with the problem of finding analogs of general relativity and in particular quantum field theory in curved spacetime within other physical systems with the intention of sparking new insights promoted by the crossover between different fields. The study of these analog models has been motivated by the fact that their gravitational counterparts are not easily accessible. It has already been shown that scalar Bose-Einstein Condensates can serve as an analog gravity model for curved Friedrich-Lemaitre-Robertson-Walker cosmologies. This allows features from cosmology to be investigated in tabletop experiments. In this talk I will provide a quick introduction to the theory of Spin-1 BECs. Then I will show how to describe fluctuations on top of one of the condensate's ground states in terms of quantum fields in a curved spacetime geometry.