Fachgruppe Physik und Astronomie Universität Bonn

Physikalisches Kolloquium
Fachgruppe Physik/Astronomie der Universität Bonn

UNIVERSITÄT BONN

Friday, 27.06.2025, 1:15 p.m.
in Lecture Hall I of the Physics Institute

Jennifer Schober
Universität Bonn

„Magnetic history of the Universe“

Magnetic fields are observed on virtually all astrophysical scales of the modern Universe, from planets and stars to galaxies and galaxy clusters. Observations of blazars suggest that even the intergalactic medium is permeated by magnetic fields. Such large-scale fields were most likely generated very shortly after the Big Bang and therefore are a unique window into the physics of the very early Universe.

In my talk, I will review theoretical models of magnetogenesis and confront these with observational constraints. I will address the possible origin of magnetic fields in the very early Universe, during inflation and the cosmological phase transitions, as well as their pre-recombination evolution in magnetohydrodynamical turbulence. Finally, I will discuss recent advances in our understanding of the evolution of magnetic fields in the modern Universe, tying together the theoretical models with current observational data.

Everybody is welcome, especially students of all semester

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