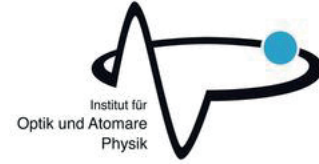
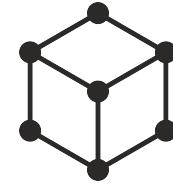


# Physikalisches Kolloquium



## Prof. Dr. Cary Forest

University Madison Wisconsin

### “A Laboratory Analog of the Parker Spiral”

Many rotating stars have magnetic fields that interact with the winds they produce. The Sun is no exception. The interaction between the Sun's magnetic field and the solar wind gives rise to the heliospheric magnetic field – a spiraling magnetic structure, known as the Parker Spiral, which pervades the solar system. In this talk, I will report the creation of a laboratory model of the Parker spiral system based on a rapidly-rotating plasma magnetosphere and the measurement of its global structure and dynamic behavior. This laboratory system exhibits regions where the plasma flows evolve similarly to many magnetized stellar winds. We observe the advection of magnetic field into an Archimedean spiral and the ejection of quasi-periodic plasma blobs into the stellar outflow, which mimics the observed plasmoids that fuel the slow solar wind. The Parker spiral system mimicked in the laboratory can be used for studying solar wind dynamics in complementary fashion to conventional space missions such as NASA's Parker Solar Probe mission.

Moderation: Prof. Dr. Robert Wolf

**Thursday, 16.01.19 · 16:15h · EW 202**

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