



# PHYSIKALISCHES KOLLOQUIUM

Wintersemester 2017/18

Montag, 15.01.2018, 12 Uhr c.t. H-NB

## Turbulence in Magnetized Space and Fusion Plasmas

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From some of the most energetic events in the universe to stellar atmospheres to the promise of clean energy on Earth, plasma turbulence offers a wealth of exciting applications. With the advent of massively parallel supercomputers, we are now able to make rapid progress in understanding the underlying physical mechanisms in these systems. This colloquium explores a series of recent advances in the field: how magnetic

fluctuations can improve the efficiency of fusion reactors, but eventually also disable turbulent saturation; how alternate reactor designs may hold new opportunities while improving our ability to simulate future mainline tokamak devices; how the turbulent reconnection of magnetic field lines is able to maintain extremely high temperatures in the Sun's atmosphere; and how a newly-discovered plasma instability holds implications for terrestrial experiments as well as for electron-positron plasmas in some of those same astrophysical objects very recently observed to emit gravitational waves.

Einführung: Prof. Dr. R. Grauer

Die Fakultät lädt alle Interessierten herzlich ein.

Ab 11.45 Uhr Kaffee/Tee im Hörsaal