



PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 14.12.2022, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1

Prof. Dr. Sanjay Reddy

University of Washington, USA



"Neutron Stars as Laboratories for Nuclear and Particle Physics"

I will discuss efforts to interpret recent gravitational wave and x-ray observations of neutron stars. These studies have provided new insights into the sound speed in dense matter and low-temperature properties, such as its specific heat and neutrino emissivity. Neutron stars can also be excellent sites to look for dark matter. I will address how one can harness neutron star observations to constrain or discover dark matter candidates with sub-GeV masses. I will conclude by highlighting the need for next-generation gravitational wave observatories such as Cosmic Explorer and Einstein Telescope and outline their discovery potential.

Die Dozenten der Physik

local host: Prof. Dr. Jürgen Schaffner-Bielich | schaffner@astro.uni-frankfurt.de