

Plenarvortrag PV IX Fr 11:00 HG X und HG Aula
Going to extremes: Fundamental physics and radio astronomy — ●MICHAEL KRAMER — Max-Planck Institut fuer Radioastronomie, Bonn, Germany

In order to test our understanding of the physical world and the fundamental laws that govern it, we need to go to the extremes of the observable Universe. Exploring the fundamental forces under extreme conditions is possible - often with extreme precision - using radio as-

tronomical observations. While the received photons are of low energy, they are often the result of the most energetic particles in the cosmos. They carry information of the most extreme objects in the Universe, e.g. neutron stars, and their properties, namely polarisation and arrival times, reveal unique information about the only two fundamental long-range forces, electromagnetism and gravity. I will present examples of how aspects of gravitation in particular can be investigated along with addressing other fundamental questions in physics and astrophysics.