

Physikalisches Kolloquium

Thursday, 16.07.15, 17:15, HS 100
Reception with coffee & cookies 16:45



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Submillimeter Astronomy – Molecules and Dust in the Universe

Abstract

In our Universe, new stars are forming since at least 13 billion years – and still today – out of dense clouds of interstellar gas and dust. At optical wavelengths, dust absorption prohibits observations of the youngest stars and the process of their formation. In contrast, at 1000-10000 times longer wavelengths, the dust is shining brightly as are molecules from a plethora of different species, some of them quite complex. Since molecules have their rotational spectra at millimeter or shorter wavelengths, the submillimeter wavelength (or terahertz frequency) regime offers optimal opportunities for studies of the cradles of stars and many other interesting astronomical environments. An inherently interdisciplinary enterprise, frontier submillimeter astronomy crucially depends on laboratory spectroscopy and experimentation, state of the art detector development and modern telescope technology working on the driest sites on Earth, in the stratosphere or in space. An overview of this exciting field will be given, illustrated with newest results.

All of you interested in physics are cordially invited!