



## KCETA Colloquium

# Search for cosmological phase transitions through their gravitational wave signals

**Thursday, January 16, 2025**

**Kleiner Hörsaal A (CS) 15:45 - 17:00**

**Prof. Marek Lewicki**  
(Warsaw University)

We are currently witnessing the dawn of a new era in astrophysics and cosmology, started by the LIGO/Virgo observations of Gravitational Waves (GWs). Recently, also the detection of a stochastic background of GWs at very low frequencies was announced by the Pulsar Timing Array collaborations. Thanks to the fact that these signals propagate freely from the moment of their production they open a new window into processes taking place in the first moments of our Universe. Before we had to rely on photon based signals which could only propagate freely since the Universe became transparent due to recombination when it was about 370k years old. In this talk, I will discuss how GW signals are produced in cosmological phase transitions and examine the possible implications of current data for this source as well as the prospects for detection in the upcoming next generation of experiments.



Please note: The colloquium will also be live-streamed to B402 SR224 (CN).

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