

# AVVISO DI SEMINARIO

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## *Polariscopy with optical far and near field for molecular thermal anisotropy analysis*

Polarisation analysis of light-matter interactions is extended to the optical near-field using an attenuated total-reflection (ATR) instrument and a THz-frequency synchrotron radiation source, with new phase and amplitude mapping techniques. A method has been developed to simultaneously measure absorption anisotropy and birefringence in the IR-terahertz band. The evanescent four-angle polarisation method was realised by applying polariser-analyser measurements in the 30-1000 cm<sup>-1</sup> THz-IR spectral window to spherulitic samples of polyhydroxybutyrate (PHB) and poly-L-lactic acid (PLLA). By adding in-plane rotation of the ATR prism, the three-dimensional anisotropy of the sample all can be determined, and such polarisation tomography could be extended to other spectral regions. Related topics of the thermal imaging in the applications of medical imaging and the new methodology to determine the heat transport properties will also be presented.

**Lunedì 5 DICEMBRE 2022 : ore 11.00**

**Sala Lettura - Dipartimento SBAI – Pal. RM009**

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