PhD Seminar – WS2022

Experimental & Festkörper Physik

Abstract - Presentation

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Structured Light Raman Spectroscopy

Raman spectroscopy is a technique to measure vibrational or rotational modes of different materials such as gases, liquid, powders, solids or crystals. In solids or crystalline materials, the Raman-Effect is an inelastic scattering of photons with phonons, resulting in an emission of photons with a different wavelength. The emission of this Raman-Light can be used to identify materials in applications like pharmacy, forensics, engineering and science. This presentation will contain fundamentals of Raman spectroscopy and some techniques with scope on structured light features, and the correlation of those light features to mode selection known from group theory. Based on this correlation, several methods will be introduced how structured light does gain additional information for bulk or nano-structured materials in Raman spectroscopy.