



Special Physics Colloquium in honor of Prof. Dr. Bernd Rheinländer

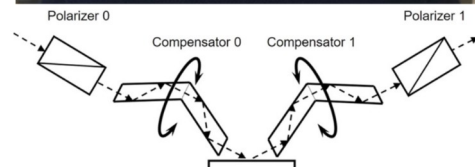
Tuesday, 14 June 2022 at 17:00

Dr. Oriol Arteaga Barriel

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Sensitivity limits in Mueller matrix ellipsometry: Anisotropy, optical activity, and spatial dispersion measurements

Spectroscopic ellipsometry is known to be very sensitive to ultra-thin films. This sensitivity is mostly a direct consequence of Fresnel equations, that when applied to thin films or multilayers, can transform very small thickness variations into not-so-small phase shifts. However, this “phase advantage” is lost when trying to determine the optical constants of materials affected by “bulk” optical effects such as anisotropy, optical activity, or spatial dispersion. In transmission, the optical path length amplifies these effects, but in a reflection configuration, they are very challenging to measure and interpret. In this presentation, I will show some studies we have made on crystalline materials with anisotropy, optical activity, and spatial dispersion together with the recent advances we have done to improve the sensitivity of our home-made Mueller matrix ellipsometers.



Venue: Universität Leipzig, Faculty of Physics and Earth Sciences
04103 Leipzig, Linnéstraße 5, Lecture Hall for Theoretical Physics

Before the lecture, coffee and cookies are offered in front of the lecture hall.
After the lecture, all attendees are invited to a reception in the Aula.

We kindly ask you to observe the currently applicable measures for infection protection.