

Poster-2-21**Polarization-resolved 3D mapping by second harmonic generation and Raman scattering**

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We developed a module for second/third harmonic generation (SHG/THG) using femtosecond laser excitation that can be easily adapted to standard Raman microscope. The system is designed to provide full control of input and output polarization with passive compensation of polarization distortion of pump beam and collected SHG signal. It can be used in parallel to the Raman detection channel to combine the complementary information on the structure that provide Raman and SHG.

It allows realizing precise SHG polarization resolved mapping that is sensitive enough to probe single atomic layer of 2D materials. We will show a few examples on SHG application in solid state physics.