

# 42nd RD50 Workshop on Radiation Hard Semiconductor Devices for Very High Luminosity Colliders (Montenegro)

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## SOLID STATE SENSOR CHARACTERISATION USING TWO-PHOTON ABSORPTION TECHNIQUE

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Two-photon absorption is a very powerful technique for the characterization of solid-state detectors. A dedicated set-up was developed at PSI (Manchester) which allow the possibility of tuning the laser wavelength (330 nm to 16,000 nm) with order of 150 femtoseconds laser pulses. This opens the possibility to test sensors based on different materials like silicon and diamond sensors with the same laser source. In addition, the same set-up can also be used for 3D characterization and time resolution studies. A description of the setup as well as the results of first measurements with silicon and diamond sensors shall be presented, including energy, voltage, depth and knife-edge scans, and time resolution measurements, followed by plans for improvements.

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