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TPA Laser Experiment on the MPW4 HVCMOS MAPS chip

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The experiment purpose is to get signals from the MPW4 monolithic active pixel sensor (MAPS) under femtosecond TPA laser excitation at different depths (z-scan mode) and positions (xy-scan mode) on the chip (backside illumination). At 1550 nm, the silicon is transparent below a light intensity threshold so the photoionization (light absorption) happens only around the focus point (voxel volume). A z-scan means to precisely position the voxel volumen along different die depths, also moving the beam along the pixel area. That way any particular detector volume can be excited to generate a signal in the collecting electrodes. We map the depletion volume and the charge sharing effect between neighbouring pixels by correlation the signal with the position of the voxel.

Type of presentation (in-person/online)

in-person presentation

Type of presentation (I. scientific results or II. project proposal)

I. Presentation on scientific results

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