

**B. Hermann: Dielectric
wakefield shaping in the
ACHIP chamber**

Report of Contributions

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Dielectric wakefield shaping in the ACHIP chamber

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This talk summarizes results of recent experiments conducted in the ACHIP chamber, a two-meter long multi-purpose chamber installed in the switchyard to Athos. The presented studies concern wakefields in dielectric microstructures and THz radiation generation with a 3D-printed polymer geometry, which is designed by an inverse design algorithm. The wakefield source under study is a double grating etched into bulk glass with a period of 50 μm and an aperture which changes linearly along the grating, ranging from 10 to 100 μm . We characterized the wakefield response for different gap sizes and observed a strong dependence on longitudinal centroid offsets (tilts). This device could serve as a tunable passive wakefield source for beam shaping in Athos or a sensitive diagnostic for beam tilts.

Presenter: HERMANN, Benedikt (PSI - Paul Scherrer Institut)

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