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## Transverse wakefield effects in dielectric slab symmetric structures

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Dielectric wakefield structures driven by relativistic beams have been employed to generate high-gradients for collinear acceleration schemes, as well as for applications in beam phase space manipulations. In simple cylindrical dielectric structures, the longitudinal wakefields are also accompanied by transverse fields. The growth of the transverse fields can severely limit the acceleration gain of the interaction due to the generation of forces that can lead to beam break up. One proposed method to mitigate the growth of these instabilities is the use of alternate geometries to reduce beam coupling to deleterious modes. In this paper, we will present recent experimental work that employs dielectric wakefield acceleration in slab planar and woodpile geometries to mitigate effects of transverse forces.

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