

FILAMENTATION OF FEMTOSECOND VORTEX BEAM IN SAPPHIRE

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S u m m a r y

Filamentation of powerful femtosecond beams with a vortex of the topological charge $l = 2$ in sapphire is studied. A method to control the azimuthal position of filaments by changing the phase difference between two coherent co-axial beams, vortex and vortex-free reference ones, is proposed and demonstrated. The observed misalignment between the paths of filaments generated by the vortex and vortex-free beams, when they cross at a small angle is explained in terms of the spiral propagation of filaments around the vortex optical axis.