Anisotropy of pulse and plasma dynamics in filament propagation

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We present the study of contribution of electronic and molecular kerr effect on light propagation for 800nm ultrashort pulses propagating in air. We carefully measure the effect of pre-filament propagation and propagation in filaments by focusing the light in 1 torr cell through an aerodynamic window. We also present the dynamics of the excited nitrogen molecule with 800nm filaments of 60fs in a pump-probe system with 400nm probe.

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