High Intensity Laser-Beam Propagation in the Earth Atmosphere

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Abstract

Femtosecond laser beams with powers in the terawatt range propagate over long distances in the atmosphere and emit a white light continuum. New investigations show that the white light laser channels are electrically conducting, their spectrum extends into infrared to at least 4 µm and that the whight light emission is anisotropic. Applications of these phenomenon to LIDAR are discussed.