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Dynamics of filamentary plasma jets used in plasma medicine¹

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Atmospheric plasmas exhibit large gradients in space and time. This challenges diagnostics such as LIF or other quantitative species detection methods. Single shot and 2D measurements can supply information otherwise hidden in averaging single point measurements. Especially the interaction of jet like plasmas with ambient surroundings poses unmet challenges. In the present work, several approaches of laser diagnostics of plasma and gas phase combined with numerical simulation show how a careful study of the plasma initiated processes can lead to an at least partial understanding of plasma interaction with liquid and biological systems.

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