# “Gradient” discharge for plasma-assisted detonation: controlled production of gradient of radicals

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# Photo and abstract

The talk will cover a question of diagnostics and control of a suggested configuration of a nanosecond plasma with 10 cm-long gradient of atomic oxygen without hydrodynamic perturbations. This “gradient” discharge was developed specifically for a fundamental study of gradient mechanism of initiation of detonation in combustible mixtures. TALIF, E-FISH, OES, schlieren, pulsed electrical and soot plate techniques will be discussed, the results in non-combustible and combustible mixtures will be presented.