

Abstract Submitted
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Development of Atmospheric Pressure Plasma Jets for PFAS Remediation ADAM D. LIGHT, DZAFER CAMDZIC, B. LOGAN HENNING, SHALESE M. LOVELL, ANNI ZETTL, Colorado College — Polyfluorinated alkyl substances (PFAS) are emerging as a ubiquitous and difficult to remove contaminant in drinking water. The strength of the carbon-fluorine bond makes it extremely energy intensive to break apart and mineralize these compounds. Non-equilibrium plasma at atmospheric pressure is a promising treatment technique for PFAS contamination because hot electrons and active radical species can be produced with minimal gas heating. While various plasma discharge types have been investigated as remediation tools, atmospheric pressure plasma jets (APPJ) have not been studied systematically in the context of PFAS. Our new lab at Colorado College is being built to study the application of these jets to PFAS contamination in collaboration with the Fountain Valley Water Project. I will present PFAS-specific design goals for our plasma jets, describe our targeted diagnostic measurements, and show our progress to date.

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