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Status of high throughput plasma water reactor[1] JOHN FOSTER, SELMAN MUJOVIC, Univ of Michigan - Ann Arbor — A pathway to scale-up has been a key obstacle to the practical implementation of plasma-based water purification systems. In an attempt to circumvent this problem, an alternative plasma applicator geometry has been developed. This embodiment features the conversion of pipe flow into thin streams of water, which in turn serve as a dielectric barriers. Plasma is generated in the interstitial spaces between water streams and at the surface of the streams, thereby delivering the requisite treatment dose. Here, we report on preliminary high power operation of this system, treating flows up to 20 liters/min both in batch mode and once-through configuration. Advanced oxidation dose is assessed as a function of input power and pulse frequency, using real time ozone and peroxide sensors.

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