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Investigation of the Time Evolution and Species Production in a 2-Dimensional Packed Bed Reactor[1] KENNETH ENGELING, JULIUSZ KRUSZELNICKI, MARK KUSHNER, JOHN FOSTER, University of Michigan — Plasma production in microporous media has potential to enable a number of technologies ranging from flameless combustion to environmental hazard mitigation addressing air borne pollutants. Packed bed reactors (PBRs) is one such technology that relies on plasma production in microporous media. The physics of plasma production and transport in such media however remains poorly understood. In order to better understand the plasma propagation and plasma driven chemical reaction within microporous media, absorption spectroscopy and time-resolved imaging diagnostics are being utilized. We report on plasma driven species formation and plasma discharge spatial structure and evolution characteristics found in the 2-dimensional representation of a PBR.

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