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Microhollow cathode discharges - ignition and instabilities in diamond arrays SEBASTIEN MITEA, DANIEL BARTHAUD, JAN KOWAL, NICHOLAS BRAITHWAITE, MARK BOWDEN, The Open University, UK — Microhollow cathode discharges have been developed and studied over the last ten years, with various diagnostic techniques being used to study devices fabricated with a range of sizes and in a range of different materials. The aim of our project is to investigate ignition processes and the instabilities that arise when devices are fabricated using diamond instead of silicon as the substrate material. Preliminary results of the study are reported, focusing on the dependence of ignition processes with device dimension. Measurements of current- voltage characteristics, integrated plasma emission and visible spectra will be presented.

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