

Abstract Submitted
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Modeling Effusive Gas Doser Arrays for Surface Science Experiments¹ JONATHAN KADOWAKI, DENNIS KUHL, Marietta College — Effusive gas doser designs necessary for surface science experiments were computationally modeled using Python. Four, five and eight hole effusive doser arrays were modeled to give their effective enhancement and area-weighted standard deviation in flux at the surface of a rectangular thin metal film. More holes closer to center of the sample provide better enhancement at the cost of uniformity. Uniformity tends to vary with different doser-to-sample distances and hole patterns. The four hole and one of the eight hole patterns exhibited local minima in their area-weighted standard deviation in flux at particular doser-to-sample distances, indicating strong uniformity there. By moving the holes of the pattern outward we can increase the sample-to-doser distance at which this minimum occurs.

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