

LETTERS

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Shape anisotropy and instability of holes formed during dewetting of single-crystal palladium and nickel films

Jongpil Ye

J. Vac. Sci. Technol. A **33**, 060601 (2015);

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Triratna Muneshwar and Ken Cadien

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Vapor deposition on doublet airfoil substrates: Coating thickness control

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<http://dx.doi.org/10.1116/1.4927442>