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**Thickness-dependent beaming in corrugated mid-IR plasmonic structures** SUKOSIN THONGRATTANASIRI, Department of Physics, Oregon State University, DAVID ADAMS, DANIEL WASSERMAN, Department of Physics, University of Massachusetts Lowell, VIKTOR PODOLSKIY, Department of Physics, Oregon State University — We revisit the problem of highly-directional plasmonic beaming from a subwavelength aperture surrounded by surface corrugations. We show that beaming through a layer of high-index superstrate in mid-IR structures strongly depends on the superstrate thickness. We explain this phenomenon by the interference of electromagnetic waves diffracted by the corrugations of the plasmonic surface. Our calculations are in good agreement with experimental results.

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