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(54) **2-BIT HIGH-POWER AMPLIFYING
NON-RECIPROCAL REFLECTIVE
METASURFACE**

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(57) **ABSTRACT**

A 2-bit high-power amplifying non-reciprocal reflective metasurface is provided. The metasurface comprises a plurality of metasurface units distributed in an array; each metasurface unit comprises a first metal layer, an intermediate layer, and a second metal layer which are sequentially stacked; the second metal layer comprises a receiving metal patch and a transmitting metal patch; two diodes are both positioned on a longitudinal central axis of the receiving metal patch; orientation of the slot on the transmitting metal patch is orthogonal to orientation of the slot on the receiving metal patch; the first metal layer comprises a phase shifter, which comprises first series diodes and second series diodes forming a reconfigurable 90-degree phase-shift circuit.

