

Supplementary information for Spin-encoded subwavelength all-optical logic gates based on single-element optical slot nanoantennas

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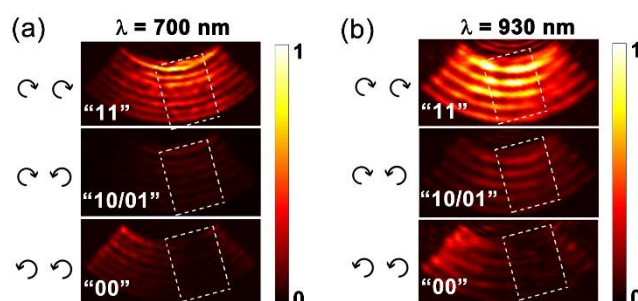
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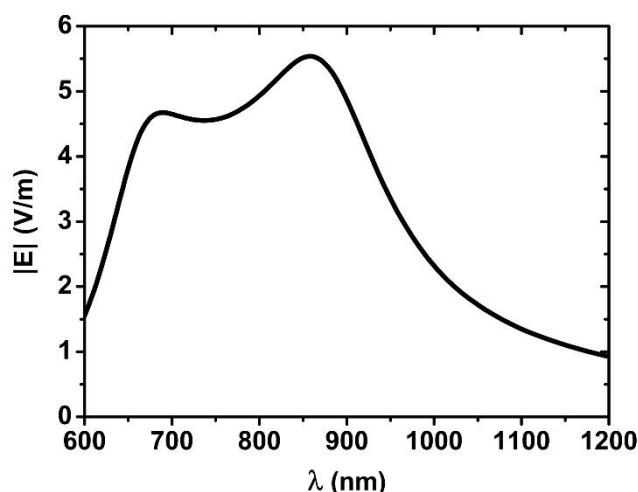
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Supplementary Figure 1: CCD images of the scattering grating for the “11”, “10”/“01”, and “00” inputs when the single-element L-shaped slot nanoantenna acts as a OR/AND logic gate. The incident wavelengths are 700 and 930 nm in (a) and (b), respectively. Dash rectangles in (a) and (b) show the output areas of the logic gates. The output ratio for the “11”, “10”/“01”, and “00” inputs is 1 : 0.15 : 0.06 in (a) and 1 : 0.26 : 0.05 in (b).



Supplementary Figure 2: Calculated near-field electric field amplitude $|E|$ versus the incident wavelength for the rectangle optical slot nanoantenna with a length of 220 nm and a width of 60 nm. The incident light field is linearly polarized along the short axis of the antenna. E is the near-field electric field at the center point of the antenna on the top surface of the gold film.