



An arrayed nanoantenna for broadband light emission and detection

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We suggest a broadband optical unidirectional arrayed nanoantenna consisting of equally spaced nanorods of gradually varying length. Each nanorod can be driven by near-field quantum emitters radiating at different frequencies or, according to the reciprocity principle, by an incident light at the same frequency. Broadband unidirectional emission and reception characteristics of the nano-antenna open up novel opportunities for subwavelength light manipulation and quantum communication, as well as for enhancing the performance of photoactive devices such as photovoltaic detectors, light-emitting diodes, and solar cells.

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