

Abstract Submitted  
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**Calculations of second harmonic generation by periodically-structured surfaces** WILLIAM SCHAICH, Physics Department Indiana University — We have done finite-difference time-domain (fdtd) calculations of second harmonic generation (shg) from various surface structures. The periodic structures include pairs of metal strips, split-ring resonators, and fishnets. The nonlinear response is described by a set of parameters that multiply products of linear field components. These fields and the resultant second harmonic radiated fields are found in separate fdtd calculations. The shg spectra do not always correlate well with that seen in linear response.

William Schaich  
Physics Department Indiana University

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