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Ultrafast optical control of nonlinear dielectric nanoantennas
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[a] Istituto di Fotonica e Nanotecnologie, Consiglio Nazionale delle Ricerche, Pzza L. da Vinci 32, Milano, 20133, Italy
[b] Dipartimento di Fisica, Politecnico di Milano, Milano, I-20133, Italy
[c] Dipartimento di Ingegneria dell9Informazione, Università di Brescia, Brescia, I-25123, Italy
[d] Matériaux et Phénomènes Quantiques, Université de Paris & CNRS, Paris, F-75013, France

Abstract
Efficient ultrafast reconfiguration of the second-harmonic generation of AlGaAs nonlinear nanoantennas operating at 1550 nm telecom wavelength, is achieved by ultrafast interband photoexcitation with femtosecond visible pulses. The combination of broadband transient transmittivity, time-revolved second harmonic generation, and nonlinear optics nanoscale modeling, allows to track the ultrafast modulation of the second harmonic signal, into the nanoscale charge carrier dynamics at the base of a giant permittivity change at the semiconducting band edge

References

- Mazzanti, A., Pogna, E.A.A
  All-Optical Modulation with Dielectric Nanoantennas: Multiresonant Control and Ultrafast Spatial Inhomogeneities
  (2021) *Small Sci*, 1, p. 2000079.

- Pogna, E. A. A., Celebrano, M., Mazzanti, A.
  Ultrafast, All Optically Reconfigurable, Nonlinear Nanoantenna
  (2021) *ACS Nano*, 15 (7).
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Correspondence Address
Pogna E.A.A.; Istituto di Fotonica e Nanotecnologie, Pzza L. da Vinci 32, Italy; email: evaariannaaurelia.pogna@cnr.it

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