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Accession number:20114214431274

Title:Molecular orientation and alignment by intense single-cycle THz pulses

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Source title:Physical Review Letters

Abbreviated source title:Phys Rev Lett

Volume:107

Issue:16

Issue date:October 12, 2011

Publication year:2011

Article number:163603

Language:English

ISSN:00319007

E-ISSN:10797114

CODEN:PRLTAO

Document type:Journal article (JA)

Publisher:American Physical Society, One Physics Ellipse, College Park, MD 20740-3844, United States

Abstract:Intense single-cycle THz pulses resonantly interacting with molecular rotations are shown to induce field-free orientation and alignment under ambient conditions. We calculate and measure the degree of both orientation and alignment induced by the THz field in an OCS gas sample, and correlate between the two observables. The data presents the first observation of THz-induced molecular alignment in the gas phase.

Number of references:40