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Author

Wang T-J. Yuan S. Sun Z-D. Marceau C. Chen Y. The'berge F. Chateauneuf M. Dubois J. Chin SL.

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Wang T-J; Yuan S.; Sun Z-D; Marceau C.; Chen Y.; The'berge F.; Chateauneuf M.; Dubois J.; Chin S. L.

Author/Editor Affiliation

Wang T-J. Yuan S. Sun Z-D. Marceau C. Chen Y. Chin SL. : Departement de Physique, Universite Laval, Quebec City, QC G1V 0A6, Canada

The'berge F. Chateauneuf M. Dubois J. : Defence Research and Development Canada - Valcartier, 2459 Pie-XI Blvd North, Quebec City, QC G3J 1X5, Canada

Title

Molecular alignment control of terahertz emission from a two-color filament in air

Source

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Abstract

We demonstrate a method to control the terahertz (THz) emission from a two-color filament in air based on molecular alignment due to rotational Raman excitation. By tuning the delay time between rotational Raman excitation and THz excitation around the air molecule revival time, a significant modulation of THz emission is observed. The phenomenon is attributed to molecular alignment induced refractive index change, resulting in the changes of the nonlinearity (⁽³⁾) in neutrals and laser intensities inside the filaments. (2011 by Astro Ltd., Published exclusively by WILEY-VCH Verlag GmbH & Co. KGaA). (30 References).