

187. Title: Molecular alignment control of terahertz emission from a two-color filament in air
Author: Wang, TJ; Yuan, S; Sun, ZD; Marceau, C; Chen, Y; Theberge, F; Chateauneuf, M; Dubois, J; Chin, SL
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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 ($\chi^{(3)}$) in neutrals and laser intensities inside the filaments.