

Title	Ultrabroadband terahertz generation using 4-N,N-dimethylamino-4'-N'-methyl-stilbazolium tosylate single crystals
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Abstract	Ultrabroadband terahertz generation up to 200 THz has been demonstrated using a 5 fs Ti:sapphire laser and a 4-N,N-dimethylamino-4'-N'-methyl-stilbazolium tosylate (DAST) crystal. The high-frequency components beyond 100 THz are much stronger than those generated using conventional electro-optic crystals such as GaSe. A simple simulation of the difference frequency generation in the DAST crystal by considering the refractive index dispersion can reproduce the broadband generation of the terahertz wave and its chirp dependence. Because the generated terahertz wave is coherent and has a broad bandwidth, it can serve as a suitable light source for ultrabroadband terahertz time-domain spectroscopy of a material.
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