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Title:Optical rectification for terahertz generation

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Abstract:The applications of terahertz-frequency electromagnetic radiation are growing rapidly, driven by developments in sources, detectors and optics suited to the THz-frequency region. Much of the advance is in the field of THz time-domain spectroscopy in which ultrashort pulses of near-infrared radiation are used in a pulse-probe arrangement to realise both the emission and detection of the THz radiation. Methods for ultrafast THz pulse generation include photoconductivity, transient currents or optical rectification. While optical rectification has been known for some time, earlier theoretical and experimental results have been limited to simple crystallographic directions.

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