

343. Title:Terahertz generation based on parametric conversion: From saturation of conversion efficiency to back conversion

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Abstract:By stacking alternatively rotated gallium phosphide (GaP) plates, the maximum photon conversion efficiency of 40% for the terahertz (THz) generation based on difference-frequency generation has been achieved. The corresponding peak power generated inside the four GaP plates approaches 4kW. As the number of plates is increased from four to five, the THz output power is significantly decreased, due to back parametric conversion.