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## Evaluation of ZnGeP<sub>2</sub> and DAST crystals for optical rectification based THz generation using Femtoseconds amplifier

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The paper reports the evaluation of ZGP and DAST, two different types of nonlinear crystals for the generation of efficient THz generation using 1.3  $\mu\text{m}$  wavelength obtained from 60 fs Ti: sapphire amplifiers at 1 kHz repetition rate. DAST is a positive biaxial organic crystal with very high deff. values whereas ZGP is a positive uniaxial semiconductor crystal with moderate deff. value. It has been observed that figure of merit (FOM) of these crystals along with the coherence length ( $l_c$ ) provide complete information about their utility as a potential source of THz generation. The FOM of DAST and ZGP in THz domain are theoretically calculated and correlated to their experimental values of conversion efficiency. The FOM of DAST is almost 372.12 times higher than the ZGP but experimental THz conversion efficiency in both the case are similar and  $\ll 1\%$ . Theoretical and experimental data of DAST and ZGP crystals are comprised in Table 1. We investigated the role of refractive indices of these crystals in optical and THz domain and corresponding coherence length ( $l_c$ ) to understand the THz conversion efficiency.

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