

Recent Trends in Solid-State Harmonics

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The interaction of strong laser fields with solids is known to generate coherent emissions in the form of high-harmonics. Since the first demonstration of the above gap non-perturbative high-harmonic generation (HHG) in a ZnO crystal nearly a dozen years ago [1], Numerous experimental and theoretical studies have shown that the process is ubiquitous at the same time that it is sensitive to the underlying electronic structure of the material (see, *e.g.* [2] and [3] for recent reviews). Solid-state HHG has been observed in a wide range of materials, including various semiconductors, insulators, single-layer 2D materials, as well as in artificially nanostructured materials. The process holds promise both as an attosecond probe of materials electronic structure and dynamics as well as a compact source of coherent short-wavelength radiation. Here we present a brief overview of solid-state HHG with an emphasis on recent trends in the field.

References

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- [3] U Huttner, M Kira and S W Koch, *Laser Photon. Rev.* **11**, 1700049 (2017)