

Abstract Submitted  
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**Optical High Harmonic Generation in C<sub>60</sub>** GUOPING ZHANG, Department of Physics, Indiana State University, Terre Haute, IN 47809 — High harmonic generation (HHG) requires a strong laser field, but in C<sub>60</sub> a relatively weak laser field is sufficient. Numerical results presented here show while its low order harmonics result from the laser field, its high order ones are mainly from the multiple excitations. Since high order harmonics directly correlate electronic transitions, the HHG spectrum accurately measures transition energies. Therefore, C<sub>60</sub> is not only a promising material for HHG, but may also present an opportunity to develop HHG into an electronic structure probing tool. References: G. P. Zhang, Physical Review Letters **91**, 176801 (2003); G. P. Zhang and T. F. George, Physical Review B **68**, 165410 (2003); P. B. Corkum, Physical Review Letters **71**, 1994 (1993); G. P. Zhang and Thomas F. George, Physical Review Letters **93**, 147401 (2004); H. Niikura *et al.*, Nature **417**, 917 (2002); *ibid.* **421**, 826 (2003); Y. Mairesse *et al.*, Science **302**, 1540 (2003); A. Baltuska *et al.*, Nature **421**, 611 (2003).

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