

## Electronic Raman Response in Electron-Doped Cuprate Superconductors

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The electronic Raman response in the electron-doped cuprate superconductors is studied based on the kinetic energy driven superconducting mechanism<sup>1</sup>. It is shown that although the dome-like shape of the doping dependent peak energy in the  $B_{2g}$  symmetry is a common feature for both electron-doped and hole-doped cuprate superconductors<sup>2</sup>, there are pronounced deviations from a cubic response in the  $B_{1g}$  channel and a linear response in the  $B_{2g}$  channel for the electron-doped case in the low energy limit. It is also shown that these pronounced deviations are mainly caused by a nonmonotonic d-wave gap in the electron-doped cuprate superconductors<sup>3</sup>.

<sup>1</sup>Shiping Feng, Phys. Rev. B **68**, 184501 (2003); Shiping Feng, Tianxing Ma, and Huaiming Guo, Physica C **436**, 14 (2006).

<sup>2</sup>Zhihao Geng and Shiping Feng, Physics Letters A **375**, 214 (2010).

<sup>3</sup>Zhihao Geng and Shiping Feng, arXiv:cond-mat/1103.2228.