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Recent advance in ARPES data analysis of dispersive features in Fe-based superconductors PENG ZHANG, PIERRE RICHARD, TIAN QIAN, XI DAI, HONG DING, Beijing National Laboratory for Condensed Matter Physics, and Institute of Physics, Chinese Academy of Sciences, YIMING XU, Materials Sciences Division, Lawrence Berkeley National Laboratory — Angle-resolved photoemission spectroscopy (ARPES) is a powerful tool to image the electronic band dispersion of materials, especially in multi-band systems such as the Fe-based superconductors. Here we present a new method to visualize ARPES data based on the mathematical concept of curvature, which improves the advantages and the reliability of the second derivative method in tracking the positions of extrema from the experimental data. We apply it to the Fe-based superconductors. We reveal clear kink features and FS contours, making it easier to capture the essential physics from the data.

[1] P. Zhang, P. Richard, T. Qian, Y.-M. Xu, X. Dai and H. Ding, *A precise method for visualizing dispersive features in image plots*, Rev. Sci. Instrum. **82**, 043712 (2011).

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