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PRECISE METHOD FOR VISUALIZING DISPERSIVE FEATURES IN IMAGE PLOTS

In order to improve advantages and reliability of the second derivative method in tracking positions of the extremes from the experimental data, we developed a novel method based on the mathematical concept of curvature. We derive formulas for the curvature in one and two dimensions and demonstrate their applicability to simulated and experimental angle-resolved photoemission data. As compared to the second derivative, our new method improves localization of the extremes and reduces width of the peak for a better readability of the intensity image plots.

In collaboration with P. Richard, T. Qian, Y.-M. Xu, X. Dai, H. Ding