

Abstract Submitted  
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**Anomalous temperature dependence of the single-particle spectrum in the organic conductor TTF-TCNQ** NEJAT BULUT, IMR, Tohoku University and CREST, Japan Science and Technology Agency, HIROAKI MATSUEDA, Department of Physics, Tohoku University, TAKAMI TOHYAMA, IMR, Tohoku University, SADAMICHI MAEKAWA, IMR, Tohoku University and CREST, Japan Science and Technology Agency — The angle-resolved photoemission spectrum of the quasi-one-dimensional organic-conductor TTF-TCNQ exhibits an unusual temperature dependence in the sense that a transfer of spectral weight over an energy range of  $\approx 1eV$  takes place as the temperature decreases below  $260K$ . In order to investigate the origin of this behavior, we have performed Dynamical Density-Matrix-Renormalization-Group (DDMRG) calculations at zero temperature and Quantum Monte Carlo (QMC) calculations at finite temperatures for the single-particle spectral weight of the doped one-dimensional (1D) Hubbard model. We present DDMRG and QMC results for a range of the model parameters of the 1D Hubbard model and make comparisons with the photoemission data. In addition, we present zero-temperature DDMRG results on the doped 1D Hubbard-Holstein model in order to explore how the electron-phonon coupling influences the single-particle spectrum in 1D correlated conductors.

Nejat Bulut  
IMR, Tohoku University and CREST,  
Japan Science and Technology Agency

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