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Pressure dependence of the single particle excitation in the charge-density-wave $CeTe_3$ system L. DEGIORGI, M. LAVAGNINI, A. SACCHETTI, ETH-Zurich, C. MARINI, M. VALENTINI, R. SOPRACASE, A. PERUCCHI, P. POSTORINO, S. LUPI, La Sapienza Rome, J.H. CHU, I.R. FISHER, Stanford University — We present data on the pressure dependence at 300 K of the optical reflectivity of $CeTe_3$, which undergoes a charge-density-wave (CDW) phase transition well above room temperature. The collected data cover an unprecedented broad spectral range from the infrared up to the ultraviolet, which allows a robust determination of the gap as well as of the fraction of the Fermi surface affected by the formation of the CDW condensate. Upon compressing the lattice there is a progressive closing of the gap inducing a transfer of spectral weight from the gap feature into the Drude component. At frequencies above the CDW gap we also identify a power-law behavior, consistent with findings along the $R\mathrm{Te}_3$ series (i.e., chemical pressure) and suggestive of a Tomonaga-Luttinger liquid scenario at high energy scales.

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