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Charge dynamics of the spin-density-wave state in BaFe₂As₂ F. PFUNER, L. DEGIORGI, ETH-Zurich, J.G. ANALYTIS, J.-H. CHU, I.R. FISHER, Stanford University — We report on a thorough optical investigation of BaFe₂As₂ over a broad spectral range and as a function of temperature, focusing our attention on its spin- density-wave (SDW) phase transition at $T_{SDW} = 135$ K. While BaFe₂As₂ remains metallic at all temperatures, we observe a depletion in the far infrared energy interval of the optical conductivity below T_{SDW} , ascribed to the formation of a pseudogap-like feature in the excitation spectrum. This is accompanied by the narrowing of the Drude term consistent with the *dc* transport results and suggestive of suppression of scattering channels in the SDW state. About 30% of the spectral weight in the far-infrared energy interval of the optical conductivity is affected by the SDW phase transition.

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