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Optical investigation of the parent compounds of iron-based superconductors JASON HANCOCK, SEYED MIRZAEI, ROMAIN VIENNOIS, University of Geneva, SUCHITRA SEBASTIAN, JACK GILLETT, Cambridge University, JEREMIE TEYSSIER, ENRICO GIANNINI, DIRK VAN DER MAREL, University of Geneva — We present a comparative study of the dynamical charge response of the parent compounds of representative members of the iron pnictide and iron chalcogenide compounds. We find that strong temperature-dependent changes accompany the magnetostructural phase transition of the pnictide system, but that these are strongly suppressed and qualitatively different in the chalcogenide. This contrasting behavior is discussed in connection to the different magnetic ground state in each of these two systems.

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