

Abstract Submitted  
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**Terahertz spectroscopy on  $\text{Rb}_{1-x}\text{Fe}_{2-y}\text{Se}_2$**  ZHE WANG, JONAS FISHER, MICHAEL SCHMIDT, VLADIMIR TSURKAN, ALOIS LOIDL, JOACHIM DEISENHOFER, Experimental Physics V, EKM, Institute of Physics, University of Augsburg, Germany — Single crystals of superconducting and non-superconducting  $\text{Rb}_{1-x}\text{Fe}_{2-y}\text{Se}_2$  [1] have been investigated by terahertz time-domain transmission spectroscopy as a function of temperature. In the superconducting samples, we observe the signatures of the superconducting transition [2] and an isosbestic point in the temperature dependence of optical conductivity in the vicinity of 100 K, which could be related to the reported phase separation in these compounds. In the non-superconducting samples, the optical conductivity exhibits features which can be interpreted in terms of spin wave excitations in agreement with neutron experiments [3].

[1] V. Tsurkan et al. Phys. Rev. B **84**, 144520 (2011)

[2] A. Charnukha et al. Phys. Rev. B **85**, 100504 (2012)

[3] Miaoyin Wang et al. Nature Communications **2**, 580 (2011)

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