



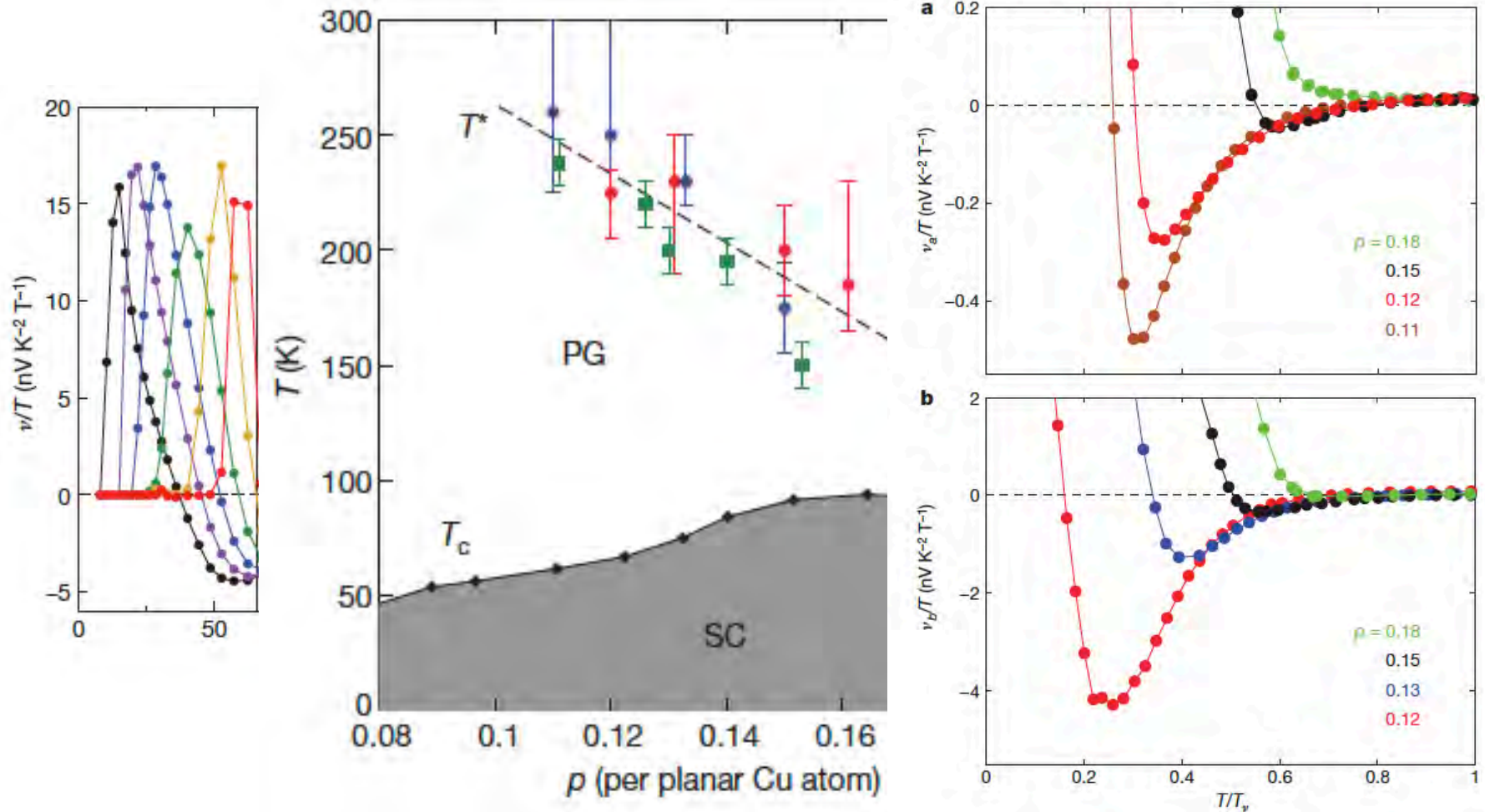
Nematic-driven anisotropic electronic properties of underdoped detwinned Ba $(\text{Co}_x\text{Fe}_{1-x})_2\text{As}_2$ revealed by optical spectroscopy

Leonardo Degiorgi, Laboratorium für Festkörperphysik,
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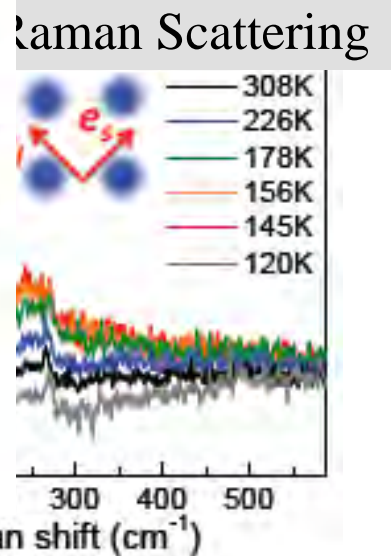
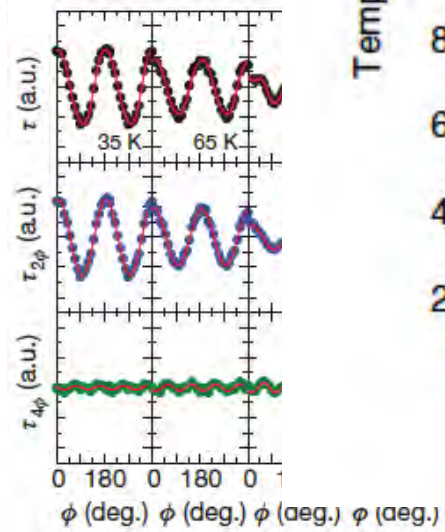
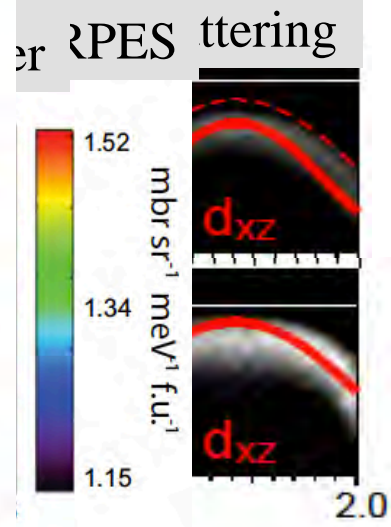
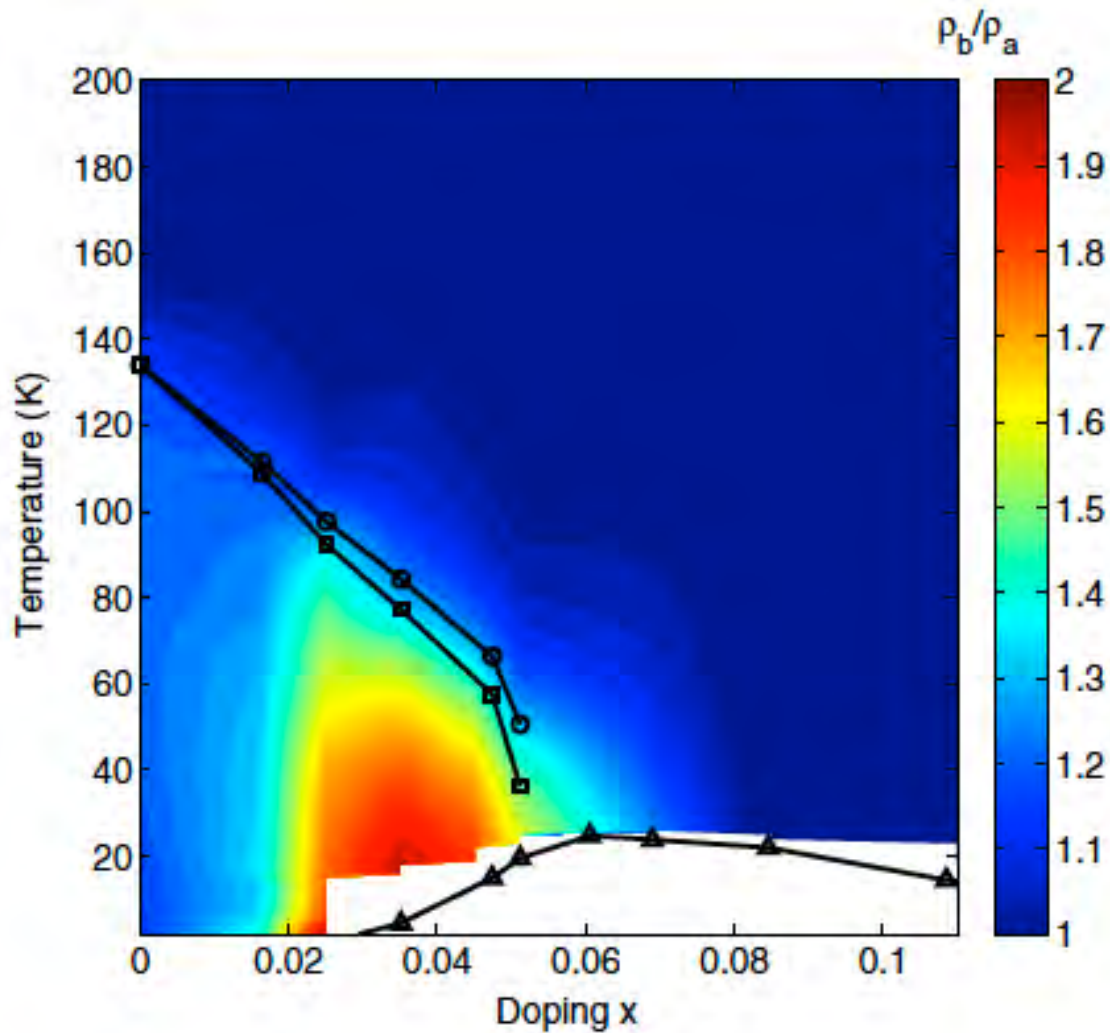
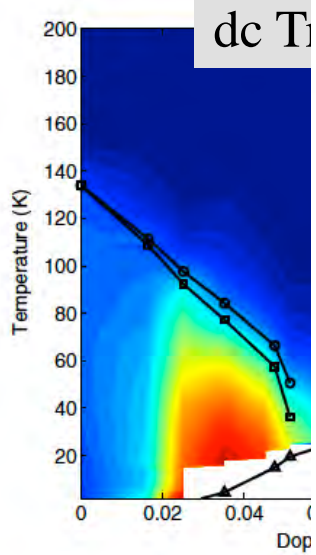
Nematic Phase



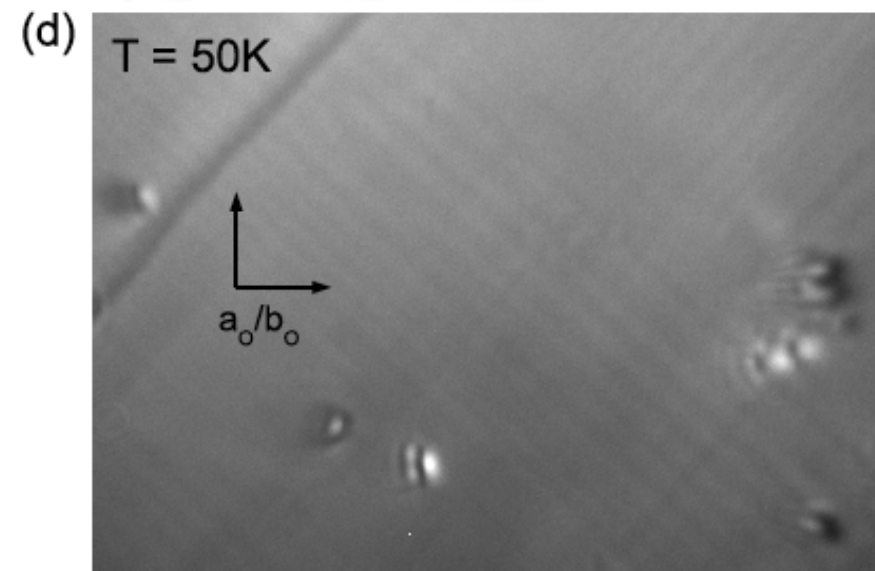
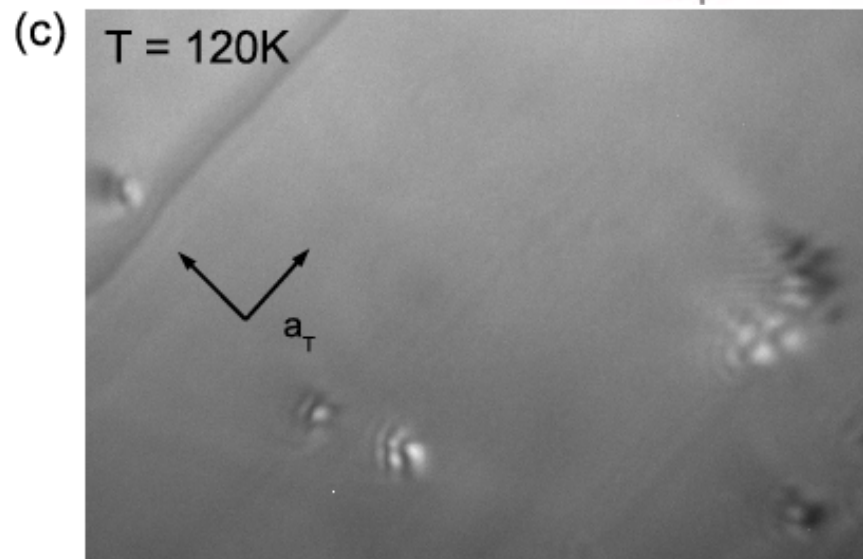
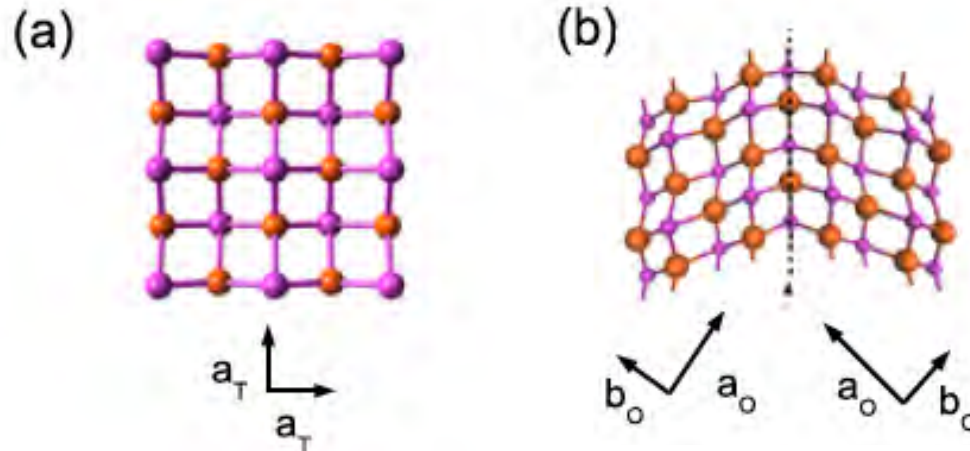
Broken Rotational Symmetry in the Pseudogap Phase of Cuprates



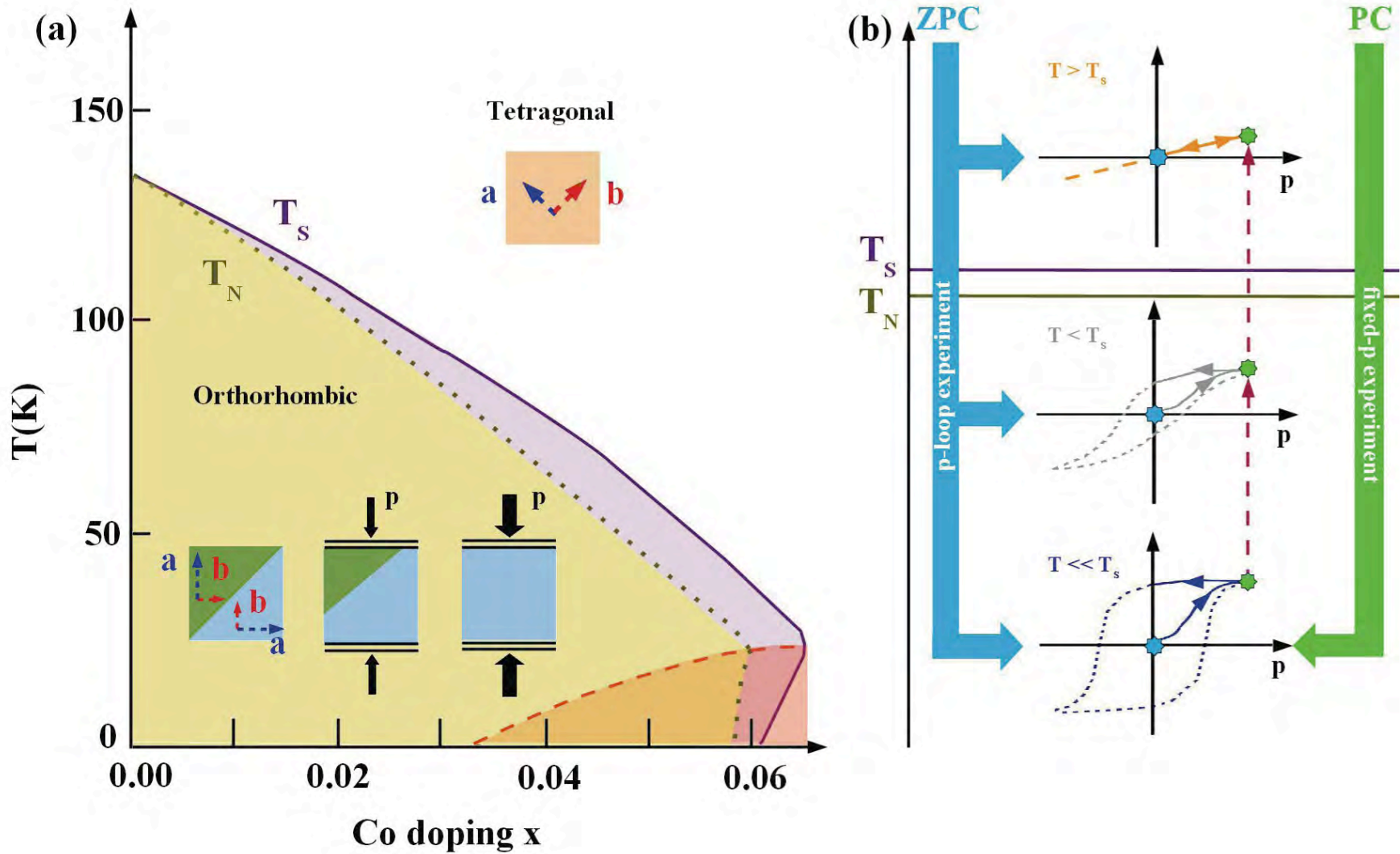
Experimental Evidences of Nematicity in Iron-Pnictides

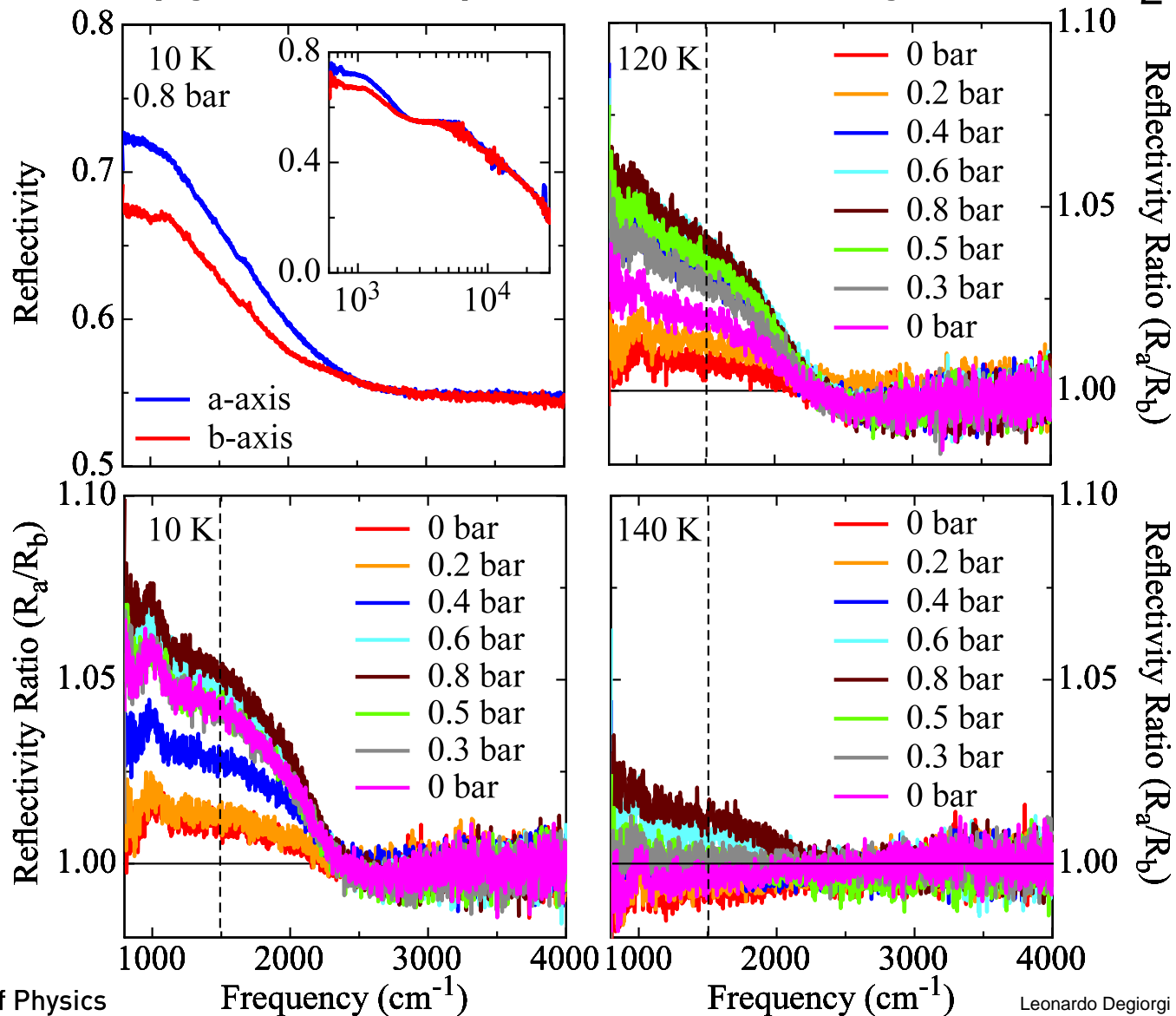


Twin Formation in Underdoped Fe-Arsenide Superconductors

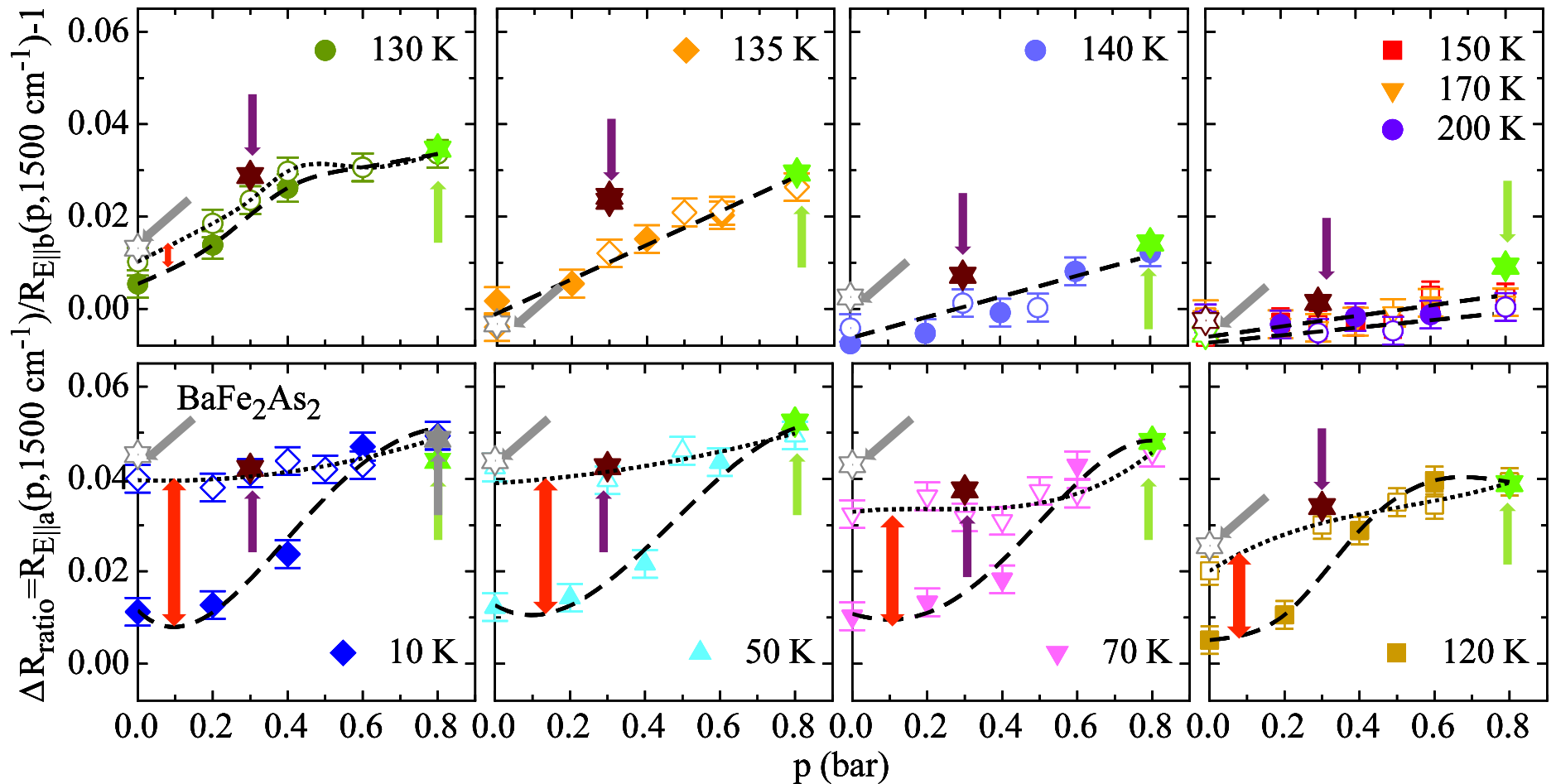


Ferroelastic Tetragonal-to-Orthorhombic Transition

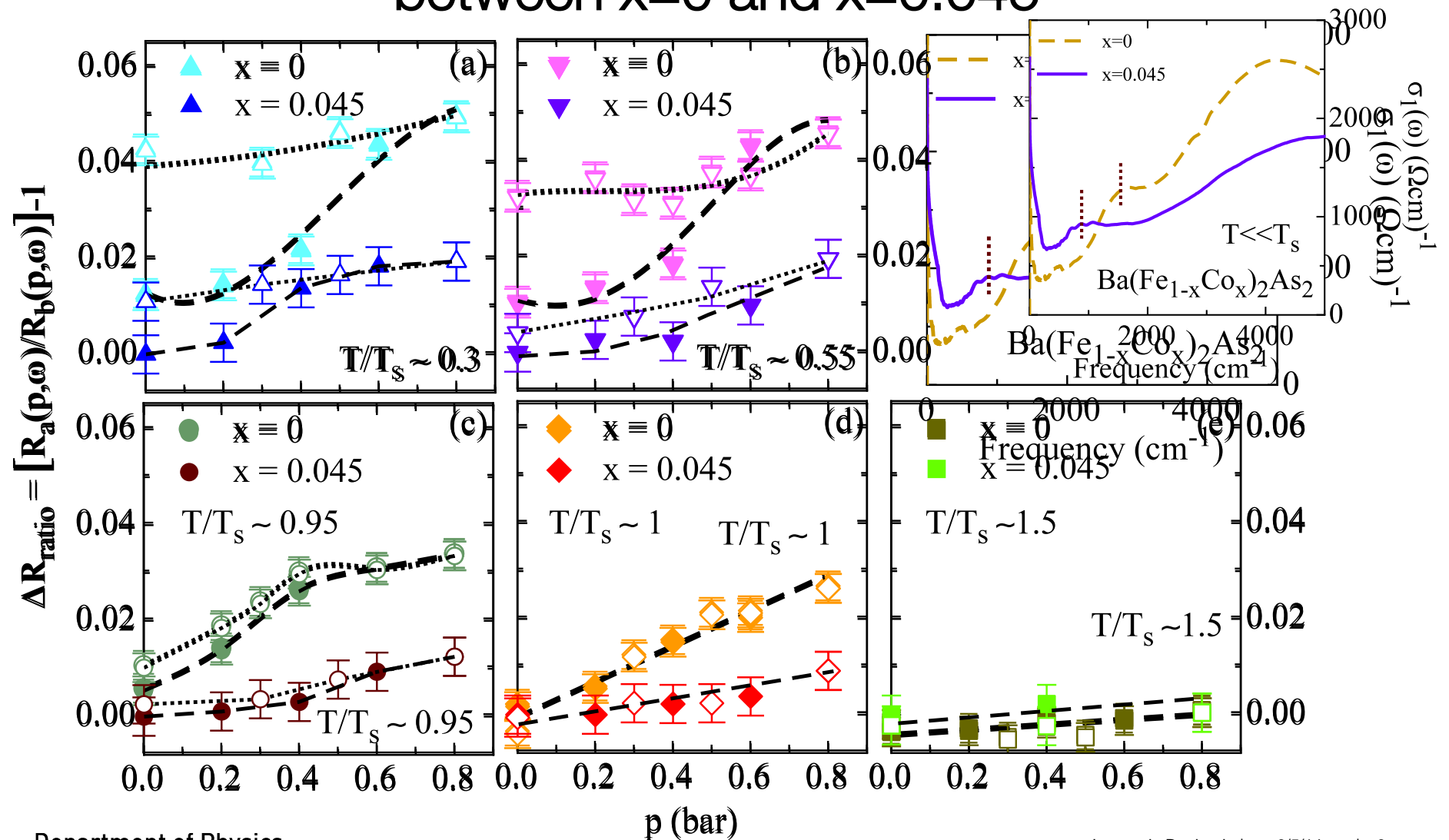


Anisotropy of the Optical Reflectivity in BaFe_2As_2 

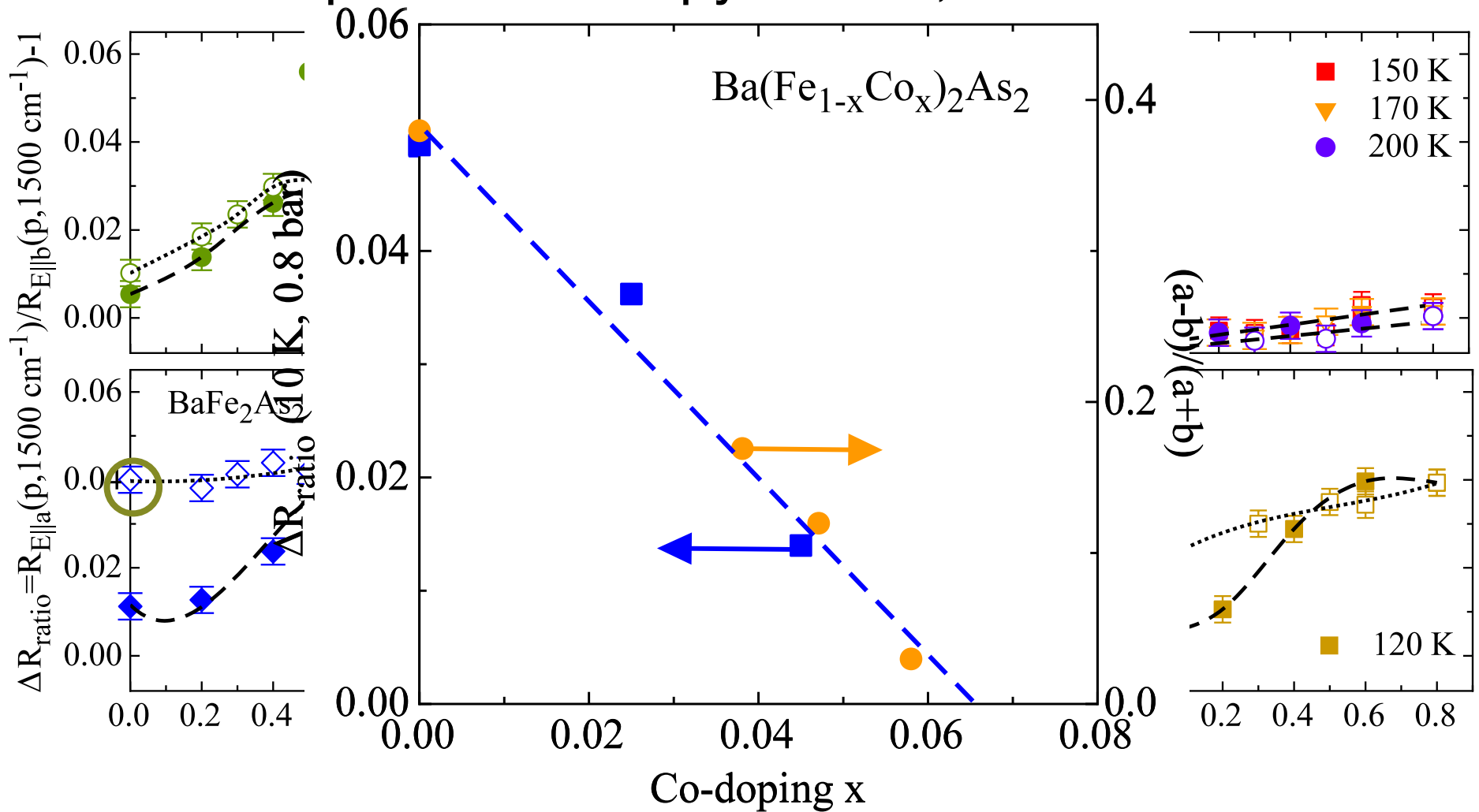
Pressure and Temperature Dependence of the Optical Anisotropy in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ($x=0$)



Comparison of the Optical Anisotropy between $x=0$ and $x=0.045$

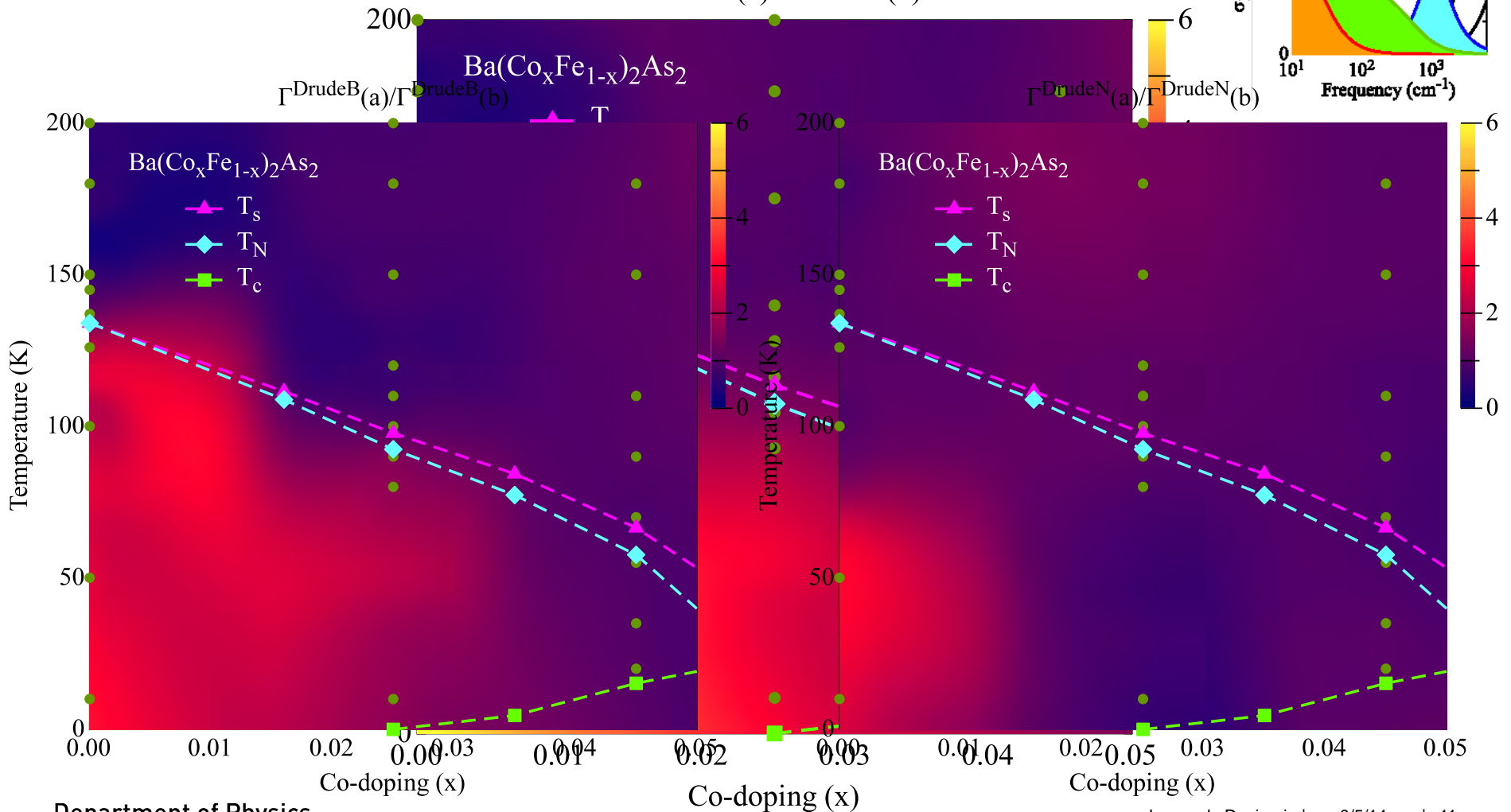
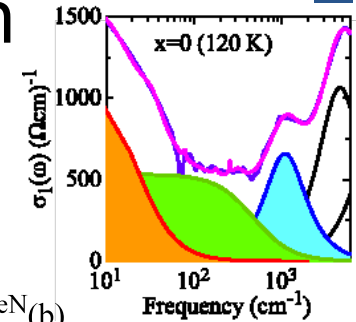


Saturation and Remanent Phase in the Optical Anisotropy for $x=0, 2.5\%$ and 4.5%

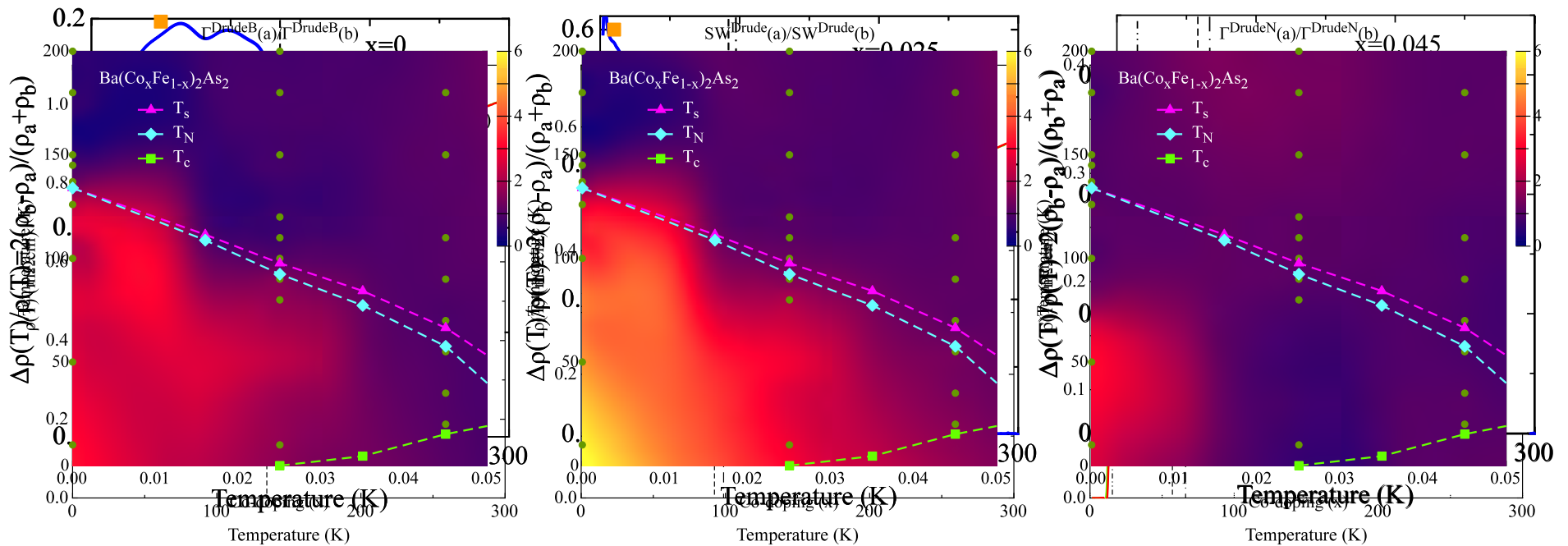


Drude Weight and Scattering Rate in Detwinned 122-Compound

$$SW^{\text{Drude}}_{(a)}/SW^{\text{Drude}}_{(b)}$$

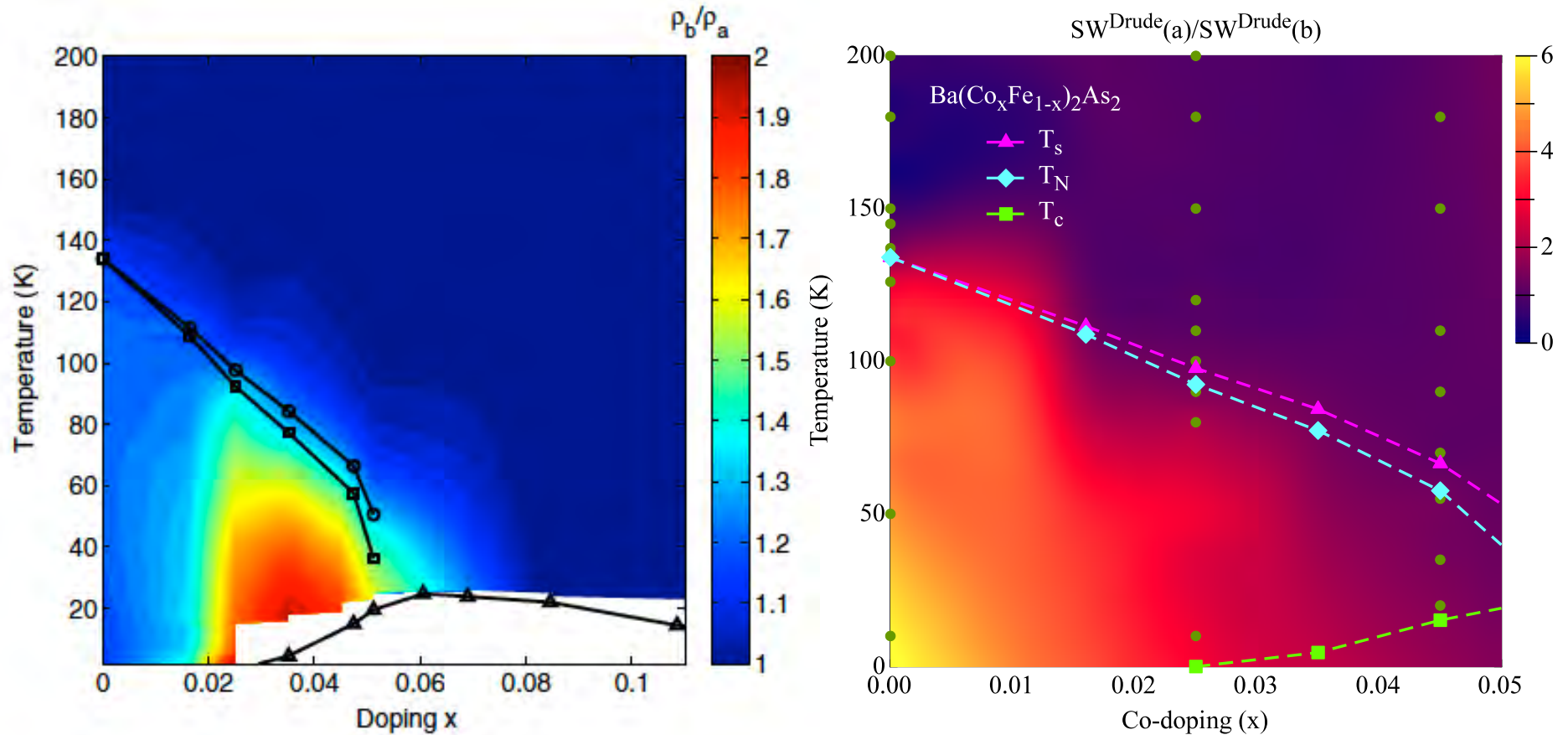


Optical versus DC Resistivity Anisotropy in Detwinned 122-Compounds

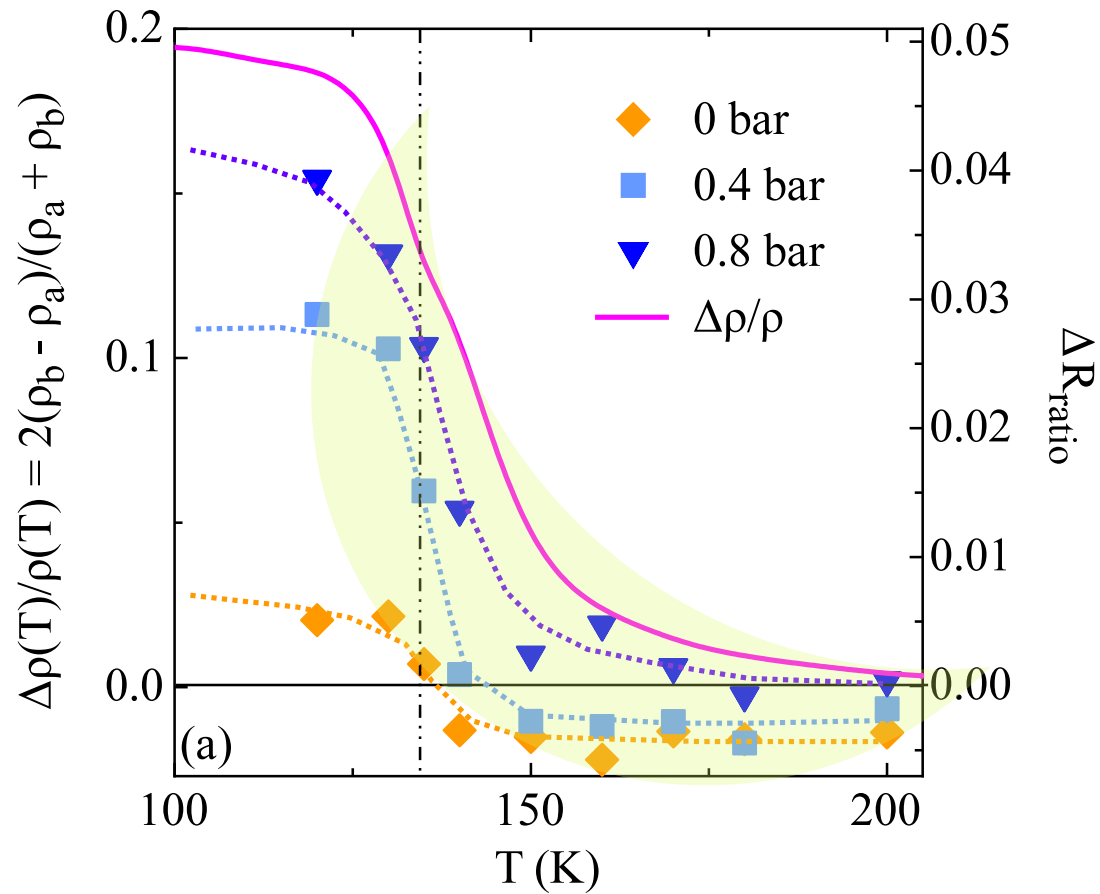


Dusza et al., Europhys. Lett. **93**, 37002 (2011) and
New J. Phys. **14**, 023020 (2012)

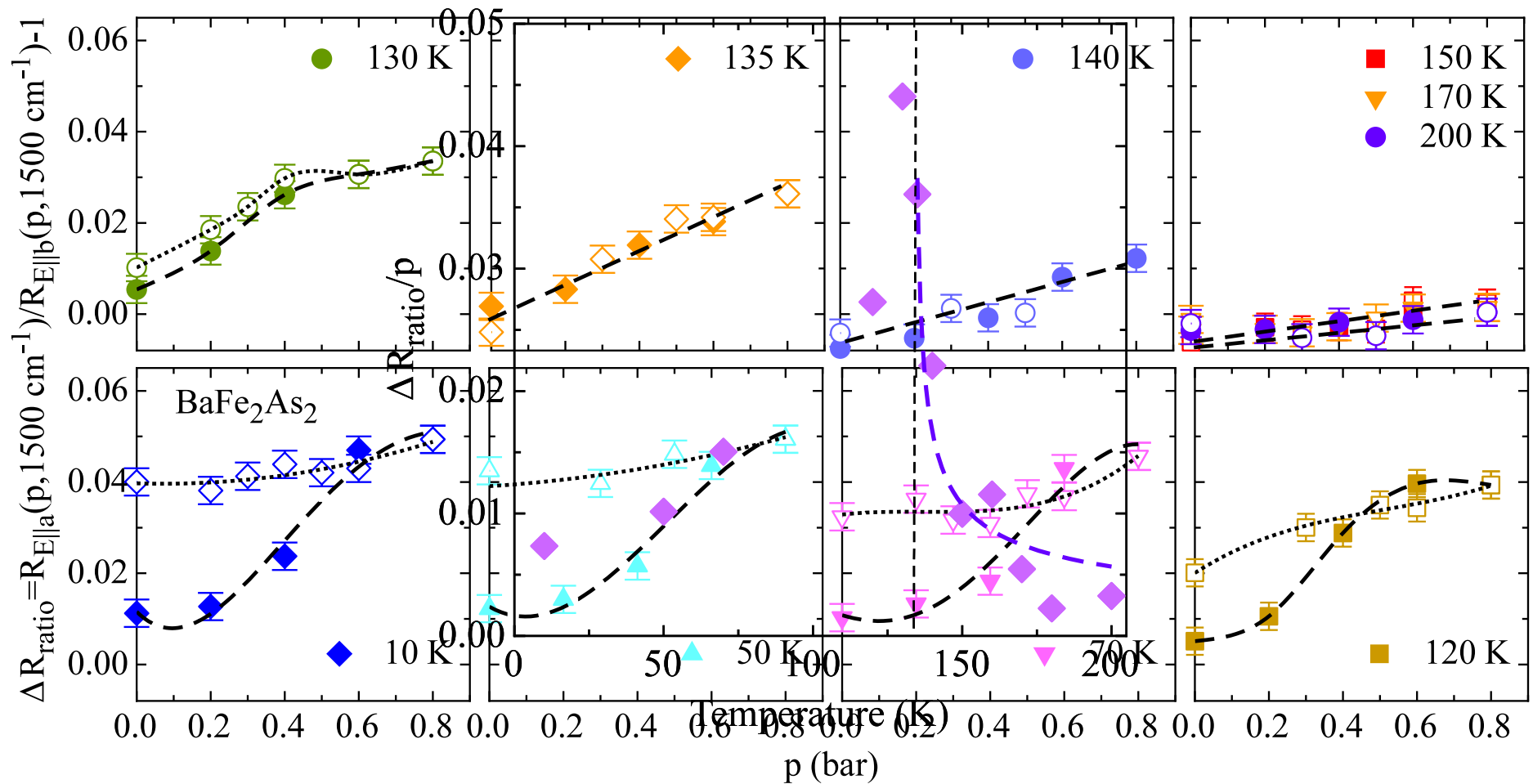
Dichotomy between DC Transport and Optics



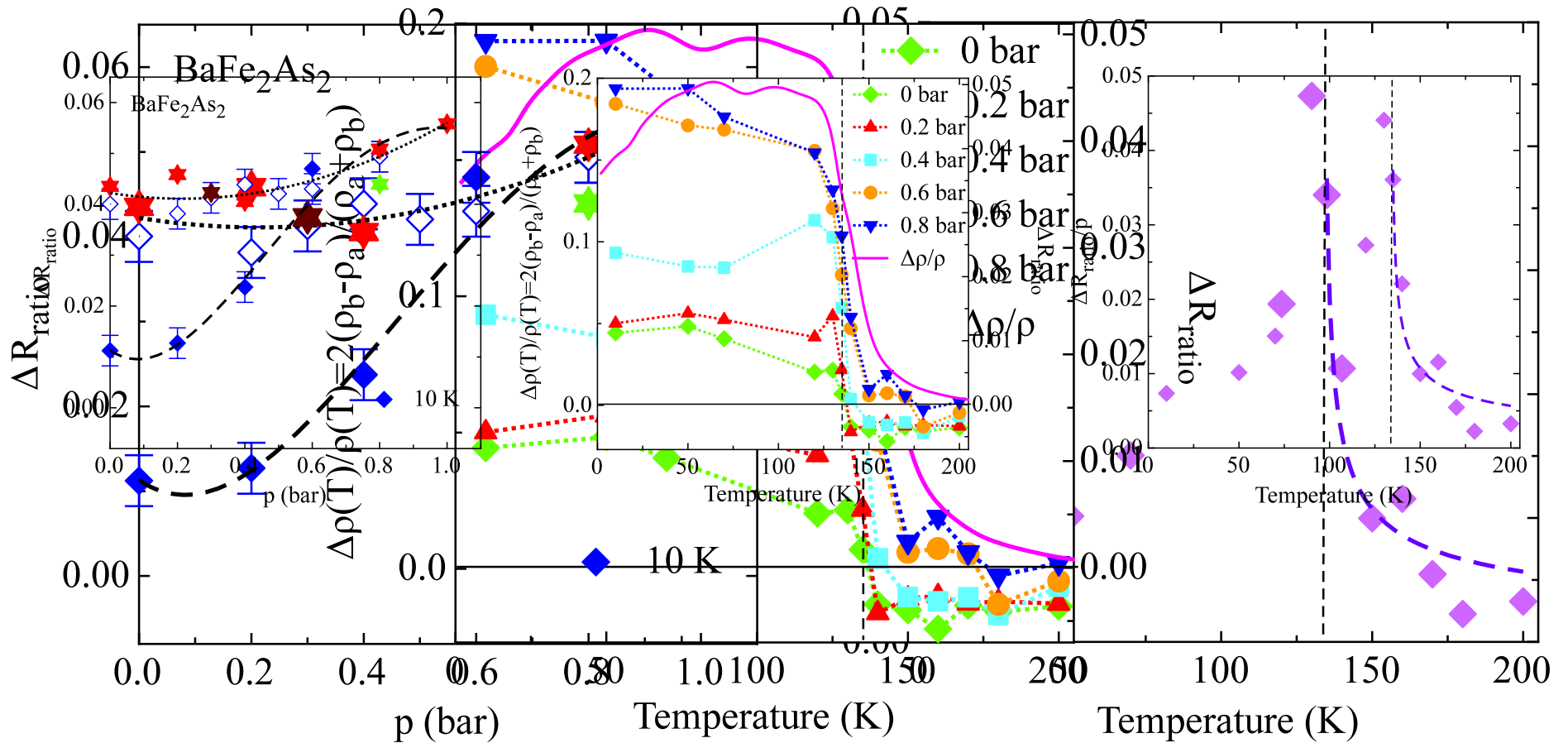
Optical versus DC Transport Anisotropy



Optical Nematic Susceptibility



Conclusions



Acknowledgements



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Andrea Lucarelli

Samples

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Theory

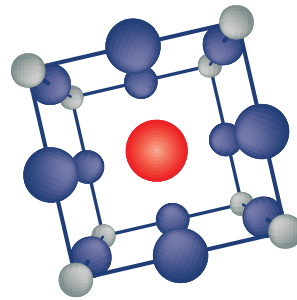
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