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【123】Boosting charge stripe order by uniaxial pressure

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High-temperature superconducting cuprates are an excellent model system to study the relationship between intertwined quantum phases. We aimed to influence the competition between superconductivity and charge order in La2-xSrxCuO4 (LSCO) by applying strain along the tetragonal *c*-axis direction, tuning the next-nearest neighbour hopping strength. X-ray diffraction measurements were performed at DESY to track charge order at different temperatures, dopings, and magnetic fields. Our results suggest, that *c*-axis strain drives the system closer to the state achieved with magnetic field. So, it stabilizes the charge ordered state while superconductivity is weakened, providing a fruitful approach to study the interplay between the two phenomena in the cuprates.

Primary authors: KÜSPERT, Julia (Physik-Institut, Universität Zürich); Dr FRISON, Ruggero (Physik-Institut, Universität Zürich); WANG, Qisi (University of Zurich); MORAWIETZ, Alexander (Physik-Institut, Universität Zürich); Dr IVASHKO, Oleh (DESY, PETRA III); Dr VON ZIMMERMANN, Martin (DESY, PETRA III); MAZZONE, Daniel (Paul Scherrer Institute); JANOSCHEK, Marc (Paul Scherrer Institut); CHOI, Jaewon (Diamond Light Source); BIAŁO, Izabela (Physik-Institut, Universität Zürich); KUROSAWA, Tohru (Hokkaido University); MOMONO, Naoki (Muroran Institute of Technology); ODA, Migaku (Hokkaido University); CHANG, Johan (Physik-Institut, Universitat Zurich, Winterthurerstrasse 190, CH-8057 Zurich, Switzerland)

Presenter: KÜSPERT, Julia (Physik-Institut, Universität Zürich)

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