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## **【182】 Magnetic field-effect on the charge order in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_y$ .**

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Underdoped cuprate high  $T_C$  superconductors have been intensively studied, especially since the discovery of the pseudogap phenomenon in the 1990's [1]. An important step towards the identification of the HTSC pairing mechanism was the discovery of a charge density wave (CDW) existing in large parts of the underdoped phase diagram [2-5]. In zero magnetic field ( $B=0$ ) the short-ranged, static CDW is induced by defects, while a long-range CDW can be induced for high  $B$ -fields along the  $c$ -axis (perpendicular to the  $\text{CuO}_2$  layers). Here we aim to search for the origin of this CDW and its relationship with superconductivity (competing or intertwined order). We performed reflection experiments from THz-NIR region ( $50\text{cm}^{-1}$ - $6000\text{cm}^{-1}$ ) while applying high magnetic fields up to  $B=30\text{Tesla}$ .

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