Supplementary Information for: Magnetic excitations in stripe-ordered $La_{1.875}Ba_{0.125}CuO_4$ studied using resonant inelastic x-ray scattering

Below we provide a figure depicting the experimental geometry reproduced from Ref. 1.

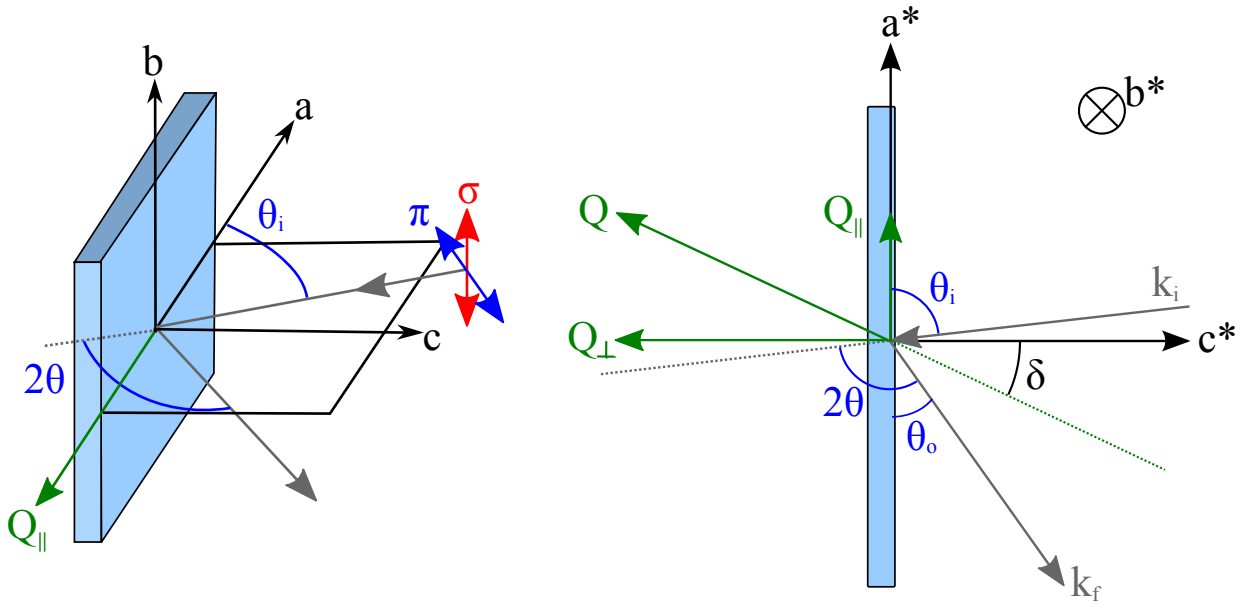

FIG. 1. A diagram of the scattering geometry used in the experiment showing the definitions of the sample angles, the scattering angles and the scattering vectors. On the left is a 3D representation, and on the right we show the a^*-c^* plane. The symbols a, b and c (a^*, b^* and c^*) are the direct (reciprocal) lattice vectors in the tetragonal unit cell with $a = b = 3.78$ Å and $c = 13.28$ Å. $\boldsymbol{k}_i$ and $\boldsymbol{k}_f$ are the initial and final x-ray scattering vectors. The scattering angle between $\boldsymbol{k}_i$ and $\boldsymbol{k}_f$ is $2\theta = 130°$. During the experiment, the sample is rotated around the vertical axis which varies θ_i the angle between the sample surface and θ_o the angle between the sample surface and $\boldsymbol{k}_f$. The total momentum transfer, $\boldsymbol{Q} = \boldsymbol{k}_f - \boldsymbol{k}_i$, is resolved into $Q_\parallel$, parallel to a^*, and $Q_\perp$, parallel to c^*.

---

[1] M. P. M. Dean, G. Dellea, R. S. Springell, F. Yakhou-Harris, K. Kummer, N. B. Brookes, X. Liu, Y.-J. Sun, J. Strle, T. Schmitt, L. Braicovich, G. Ghiringhelli, I. Bozovic, and J. P. Hill, ArXiv e-prints (2013), arXiv:1303.5359 [cond-mat.supr-con].