# 4G GPTAS
# General purpose Triple-axis spectrometer

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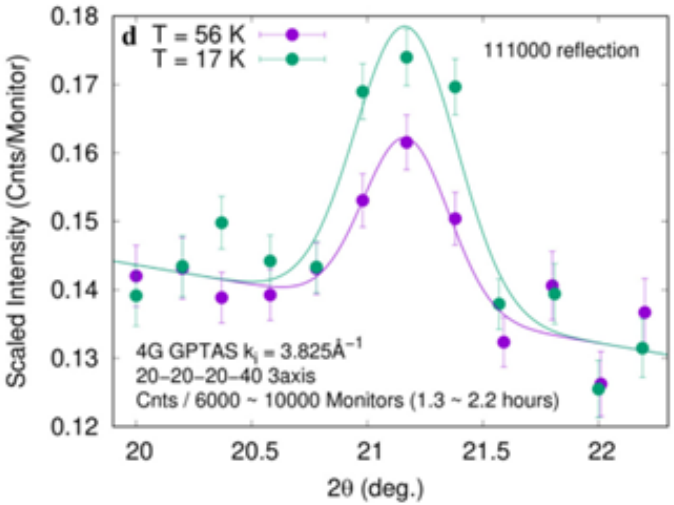
|---|---|
| **Monochromator** | Pyrolytic graphite (002 reflections)<br>$18^\circ < 2\theta < 47^\circ$ (1.1 Å < $\lambda_i$ < 2.7 Å)<br>Double focusing |
| **Sample stage** | $0^\circ < 2\theta < 119^\circ$ |
| **Analyzer** | Pyrolytic graphite<br>(002 and 004 reflections)<br>Double focusing |
| **Detector** | Single $^3$He gas counter |

**Typical usage:**

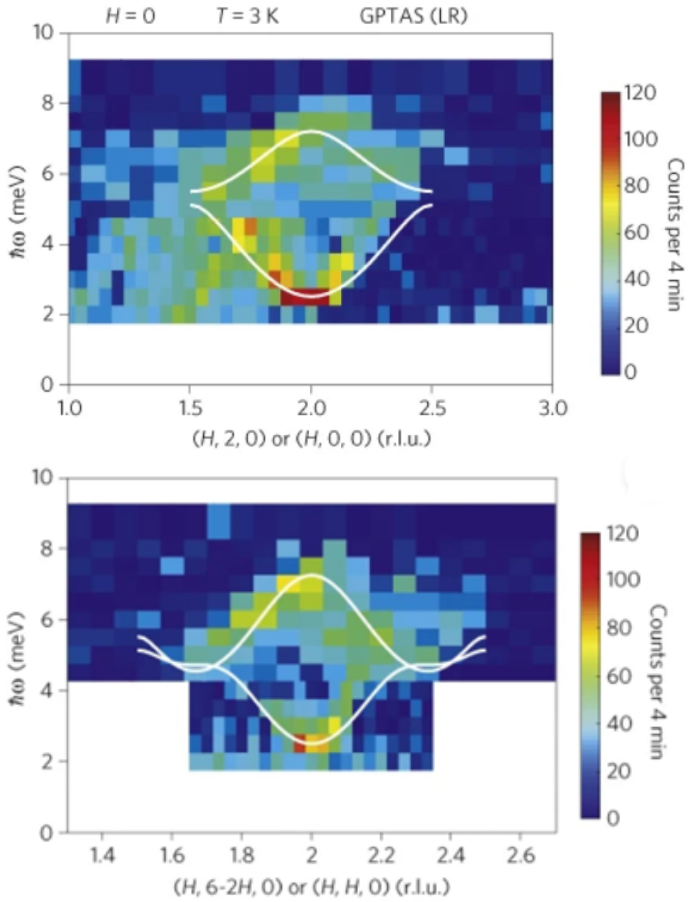
- Detecting/searching magnetic reflections
- Collecting diffuse scattering at a broad *q*-range
- Investigating magnon, phonon, crystalline-electric-field excitations
- Measuring novel quantum excitations, such as spinons and triplons

# Examples:




Discovery of the magnetic long-range order in $Au_{65}Ga_{20}Gd_{15}$ *i*QC.

R. Tamura *et al.*, J. Am. Chem. Soc. **143**, 19938 (2021).




Pinwheel VBS ground state in the *S*=1/2 deformed kagome lattice antiferromagnet $Rb_2Cu_3SnF_{12}$

K. Matan *et al.*, Nat. Phys. **6**, 865 (2010).