

**Figure 1.** SANS diffraction pattern from a VL on  $\text{YBa}_2\text{Cu}_3\text{O}_{7-d}$  at 2K and an external field of 1T parallel to c

**Keywords:** SANS, Vortex Lattice, superconductors

## MS33-P8 Alien Features: In Superspace, No One Can Hear You Scream...

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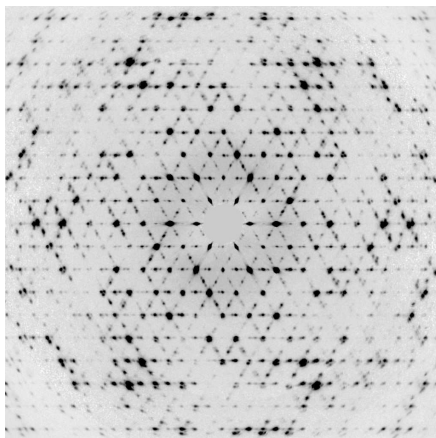
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Single-crystal diffraction is the foremost technique used to give the definitive answer to how atoms and molecules pack in the crystalline solid state. As a maturing technique, data collections have been getting faster and faster, and structure determination is becoming more routine, with an increasing number of non-expert users collecting data, solving and refining structures, and publishing their results. However, with the advent of higher intensity laboratory X-ray sources, easier access to synchrotron radiation and more sensitive detectors, more and more molecular structures are showing alien features beyond the realms of conventional crystallography. These include, super-lattice reflections, incommensurate satellite peaks and diffuse features. These can affect everything from the smallest molecules to large macrocycles to frameworks. [1-3]

Here we present a selection of the data that have made us want to scream when working in collaboration with the Chemists in Oxford.

### References:

- [1] A. D. Bond, *CrystEngComm.* (2012), 14, 2363.
- [2] A. Schönleber, *Z. Kristallogr.* (2011), 226, 499.
- [3] C. B. Pinheiro, *et. al.*, *IUCrJ* (2015), 2, 137-154.



**Figure 1.** Can you hear us scream?

**Keywords:** modulated structures, diffuse scattering, non-Bragg