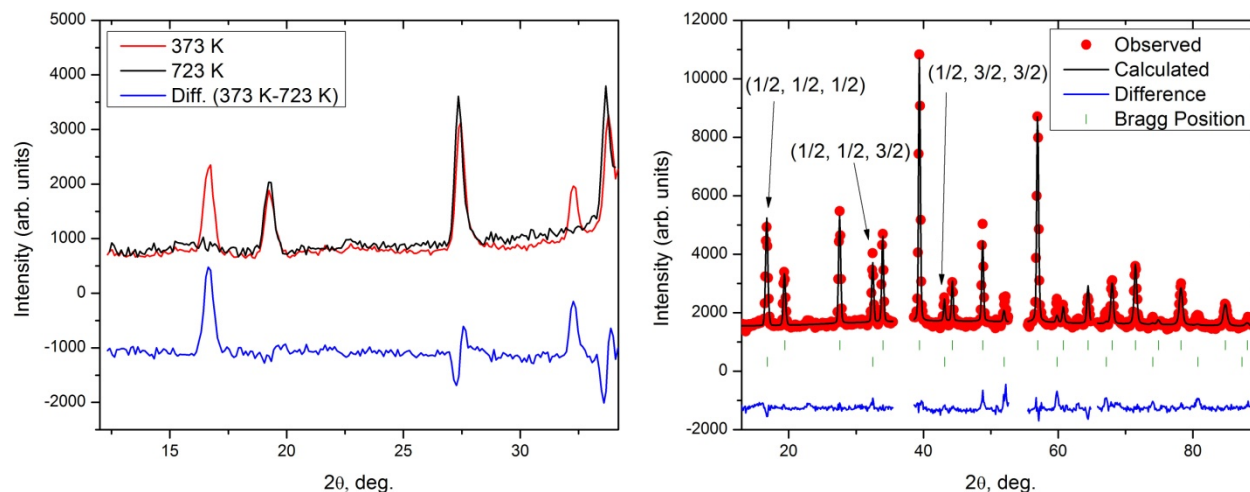


# Magnetic Ordering in the Oxy-Fluoride Perovskite SrFeO<sub>2</sub>F

Corey Thompson, Casey Marjerrison and J.E. Greedan<sup>1</sup>

<sup>1</sup> Dept. of Chemistry, McMaster University, Hamilton, ON, Canada

Data were taken from 3.5K to 723K in both Mo (350K – 723K) and V (3.5K to 290K) cans. The sample is highly moisture sensitive. It was confirmed that the crystal structure is unchanged from cubic Pm-3m over the entire temperature range. Magnetic reflections which could be indexed with propagation vector  $k = (1/2, 1/2, 1/2)$ , thus belonging to a G-type antiferromagnetic structure, were detected up to 698K.  $T_N$  was estimated to be 710(1)K as shown below. A paper based on these results has been submitted to J. Solid State Chem.



**Figure 1** Neutron diffraction patterns at 373 K and 723 K, along with the difference between the two curves (left). Refinement of the neutron diffraction pattern at 4 K (right) with propagation vector  $k = (\frac{1}{2}, \frac{1}{2}, \frac{1}{2})$ . The green tick marks indicate the nuclear and magnetic cells, respectively. The black arrows indicate selected indexed magnetic reflections.

