

Abstract Submitted
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Local

Structural Study of Prussian Blue Analog $\text{Fe}_3(\text{Co}(\text{CN})_6)_2 \cdot n\text{D}_2\text{O}$ JOE PETERSON, SOURAV ADAK, HEINRICH NAKOTTE, NMSU, KATHERINE PAGE
COLLABORATION — The family of Prussian Blue analogs (PBA) is of interest because a number of them have been shown to exhibit negative thermal expansion. $\text{Fe}_3(\text{Co}(\text{CN})_6)_2 \cdot n\text{H}_2\text{O}$ is particularly interesting because, when fully hydrated, it has been shown to have both positive and negative thermal expansion in the region from 123-298K while its partially dehydrated form demonstrates a linear-like negative thermal expansion over the same temperature region. To investigate the role local structural properties play in these systems we conducted temperature varying neutron pair distribution function (PDF) analysis on both the fully hydrated and partially dehydrated $\text{Fe}_3(\text{Co}(\text{CN})_6)_2 \cdot n\text{D}_2\text{O}$.

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