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Local Structural Study of Prussian Blue Analog $Fe_3(Co(CN)_6)_2 * nD2O$ JOE PETERSON, SOURAV ADAK, HEINZ NAKOTTE, New Mexico State University, LUKE DAEMEN COLLABORATION, KATHERINE PAGE COLLABORATION — The family of Prussian Blue analogs (PBA) is of interest, in part, because a number of them have been shown to exhibit negative thermal expansion. $Fe_3(Co(CN)_6)_2 * nH_2O$ is particularly interesting because, when fully hydrated, it has been shown to have both positive and negative thermal expansion in the region from 80-298K 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 $Fe_3(Co(CN)_6)_2 * nD_2O$.

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