

Experimental report

06/02/2016

Proposal: TEST-2554

Council: 4/2015

Title: Magnetism in organometallic CuCl₄

Research area:

This proposal is a new proposal

Main proposer: Andrea PIOVANO

Experimental team:

Local contacts: Andrea PIOVANO

Samples: C₆H₅CH₂CH₂NH₃)CuCl₄

| Instrument | Requested days | Allocated days | From | To |
|------------|----------------|----------------|------------|------------|
| IN3 | 1 | 1 | 20/11/2015 | 21/11/2015 |

Abstract:

PEA-CuCl₄

This was a test measurement of PEA-CuCl₄ – a organic-inorganic hybrid compound with layered CuCl₄-structure - at the IN3 spectrometer.

First of all, the IN3 measurements confirm the high crystal quality of our PEA-CuCl₄ single crystal, see Figs. 1-3.

The second aim, to identify the magnetic order in zero field could not be achieved. Somehow there are neither ferromagnetic nor antiferromagnetic reflections observable in the HHL plane of reciprocal space although magnetization measurements indicate ferromagnetic order of in-plane magnetic moments within each CuCl₄ layer. Just the stacking of these layers could not be answered by our magnetization measurements on oriented single crystals.

The temperature evolution of the 002, 004 and 0 0 14 peaks is shown in Figs. 1-3.



