



Contribution ID: 75

Type: **Talk**

Structure of UO_2 at low temperatures

Tuesday, 15 March 2022 15:40 (20 minutes)

We studied the structure of UO_2 and its temperature dependence from 300 K to 20 K using synchrotron single crystal diffraction. Our samples were UO_2 single crystals with a close stoichiometry, confirmed by Raman spectroscopy measurements. Anomalies in lattice parameters will be discussed as well as electron density measurements both above and below the magnetic phase transition, which is believed to lead to distortions in the oxygen sublattice and thus symmetry reduction.

Primary author: KRAFT, Nikolas

Co-authors: MURPHY, Gabriel (FZ Jülich); EVGENY, Alekseev (FZ Jülich); BAYARJARGAL, Lkhamsuren (Goethe-Universität Frankfurt am Main); VOGEL, Sven (Los Alamos Neutron Science Center); DIPPEL, Ann-Christin (Deutsches Elektronen-Synchrotron DESY); IVASHKO, Oleh (Deutsches Elektronen-Synchrotron DESY); V. ZIMMERMANN, Martin (Deutsches Elektronen-Synchrotron DESY); BOSAK, Alexei (European Synchrotron Radiation Facility ESRF); STANEK, Chris (Los Alamos National Laboratory); TAYLOR, Caitlin (Los Alamos National Laboratory); TEGTMEIER, Eric (Los Alamos National Laboratory); WHITE, Joshua (Los Alamos National Laboratory); WINKLER, Björn (Goethe-Universität Frankfurt am Main)

Presenter: KRAFT, Nikolas

Session Classification: Solid State and Materials Chemistry I

Track Classification: Main conference: Structural Chemistry & New crystal structures