



Contribution ID: 106

Type: Invited talk

Our crystal structure investigations using SPODI

Tuesday, 10 December 2019 14:00 (30 minutes)

We will present our crystal structure determinations of various chemical compounds synthesized by us during our investigations in the fields of beryllium, uranium and fluorine chemistry. Neutron diffraction on powders provided crucial insights, for example for hydrogen bonding and precise positioning of light atoms close to heavy ones. The synthesis and crystal structures of $\text{Be}(\text{ND})_3\text{Cl}_2$, [1] $\text{Ba}(\text{BrF})_4$, [2] $\text{NaF} \cdot n\text{HF}$ ($n = 2, 3, 4$), [3] $\text{UCl}_4(\text{HCN})_4$, [4] $\text{Mn}(\text{ND})_6(\text{N})_3$, [5] α - and β - F_2 , [6] and α - and β - NF_3 will be presented. [7]

- [1] F. Kraus, S. A. Baer, M. Hoelzel, A. J. Karttunen, *Eur. J. Inorg. Chem.* 2013, 2013, 4184–4190.
- [2] S. Ivlev, V. Sobolev, M. Hoelzel, A. J. Karttunen, T. Müller, I. Gerin, R. Ostvald, F. Kraus, *Eur. J. Inorg. Chem.* 2014, 2014, 6261–6267.
- [3] S. I. Ivlev, T. Soltner, A. J. Karttunen, M. J. Mühlbauer, A. J. Kornath, F. Kraus, *Z. Anorg. Allg. Chem.* 2017, 643, 1436–1443.
- [4] S. S. Rudel, C. Pietzonka, M. Hoelzel, F. Kraus, *Chem. Commun.* 2018, 54, 1241–1244.
- [5] S. I. Ivlev, T. G. Müller, A. J. Karttunen, M. Hoelzel, F. Kraus, *Z. Anorg. Allg. Chem.* 2018, 644, 1349–1353.
- [6] S. I. Ivlev, A. J. Karttunen, M. Hoelzel, M. Conrad, F. Kraus, *Chem. - Eur. J.* 2019, 25, 3310–3317.
- [7] S. I. Ivlev, M. Conrad, M. Hoelzel, A. J. Karttunen, F. Kraus, *Inorg. Chem.* 2019, 58, 6422–6430.

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