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Synthesis of Polycrystalline Mixed System $\text{Rb}_{3-x}\text{K}_x\text{Cu}_3\text{AlO}_2(\text{SO}_4)_4$

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In our work we synthesized polycrystalline $\text{Rb}_{3-x}\text{K}_x\text{Cu}_3\text{AlO}_2(\text{SO}_4)_4$ with varying Rb:K ratios. In the experiments we outlined the optimum growth conditions for Rb substituted alumoklyuchevskite synthesized from powder mixtures. First results suggest that Rb and K show a complete miscibility in the polycrystalline powder. In addition, O_2 atmosphere is beneficial for building the synthesized phase. In accordance with literature, a change in magnetic properties was observed for different Rb:K ratios.

Primary author: SCHEIBLICH, Clemens (LMU)

Co-authors: REITBERGER, Niclas (LMU); Prof. VANWELL, Natalija (LMU)

Presenter: SCHEIBLICH, Clemens (LMU)

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