



Contribution ID: 61

Type: Young Crystallographers Lightning Talks(+poster)

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

Tuesday, 15 March 2022 15:49 (5 minutes)

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.

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Session Classification: Young Crystallographers Lightning Talks

Track Classification: Young crystallographers Lightning Talks