

Abstract Submitted
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Development of high-temperature solutions for the crystal growth of chalcogenide and pnictide bearing compounds¹ XIAO LIN, RONGWEI HU, SERGEY BUD'KO, PAUL CANFIELD, Iowa State University/Ames Lab — With the discovery of superconductivity in the FeAs and FeSe/S based materials and proposed topological insulators in a variety of Te and Se based compounds the need to develop crystal growth techniques that readily incorporate and simultaneously control volatile (and often toxic) elements is of growing importance. In this talk we will review our initial efforts to develop versatile solution growth techniques for single crystal growth of P, As, S, Se and/or Te containing compounds. We will present our results on our use of S-bearing solutions to grow binary and ternary sulphides as well as the development of hybrid solutions the components of which each allow for the incorporation of hard to dissolve elements.

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Xiao Lin
Iowa State University/Ames Lab

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