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Title

Noble Metals and $\text{Bi}_{2}\text{Sr}_{2}\text{Ca}_{1}\text{Cu}_{2}\text{O}_{x}$

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Noble metals and $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$,* D.R. DIETDERICH, Lawrence Berkeley Laboratory, University of California, Berkeley, CA 94720 --- There has been much interest in substrate and sheath materials for $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$. Of the noble metals Au, Ag and Pt only Ag does not form compounds with $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$. This along with Ag's ability to promote grain alignment during melt growth and its diffusivity of oxygen could make Ag unique among the metals. A solidification sequence is proposed to explain the beneficial effect of Ag on the microstructure. This work will also report the phases that form when Au and Pt react with $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$. Other materials or additives which also promote grain alignment will be reported.

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