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## Recent Work

### Title

Nucleation and Growth of  $\text{Bi}_{2}\text{Sr}_{2}\text{Ca}_{1}\text{Cu}_{2}\text{O}_{x}$  in Textured Thick Films

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NUCLEATION AND GROWTH OF  $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$  IN TEXTURED THICK FILMS,\* D.R. Dietderich, Lawrence Berkeley Laboratory, University of California, Berkeley, CA 94720.

Textured thick films of  $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$  are obtained by partially melting and slow cooling films of the 2212 composition. Heat treatment between 890 and 870°C produces aligned microstructures on Ag substrates. Observations indicate that the oxide surface plays an important role in grain alignment. Preliminary observation by TEM suggest that crystals of  $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_x$  nucleate at oxide particles in the molten oxide and grow by a ledge mechanism. The implications for controlling the microstructure and improving the materials properties will be discussed.

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