

Solid-liquid-solid growth of oxide non-linear single crystal objectsP. Badica¹, M. Truccato², A. Agostino³¹National Institute of Materials Physics, street Atomistilor 105bis, 077125, Magurele, Romania²Department of Physics, NIS Centre of Excellence and CNISM UdR University of Turin, Via P Giuria 1,
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Objects of high temperature superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$, $\text{YBa}_2\text{Cu}_3\text{O}_7$ and thermoelectric $\text{Bi}_2(\text{SrCa})_2\text{Co}_2\text{O}_y$ objects with strong curvature in the (ab)-plane were obtained by solid-liquid-solid mechanism. Shapes are of curved or kinked whiskers, bows (Fig. 1) and rings. Some of these objects have 'missing stripes' (Fig. 1). We show that these objects are 3D epitaxial single crystals and they are not different from conventional single crystals or straight whiskers: they can be considered parts 'cut' from a rectangular plate-like conventional crystal. Curved and straight objects are growing in a similar way and the only difference is that, for the growth of curved objects, shadow effects and movement of the liquid-solid growth interface may occur.

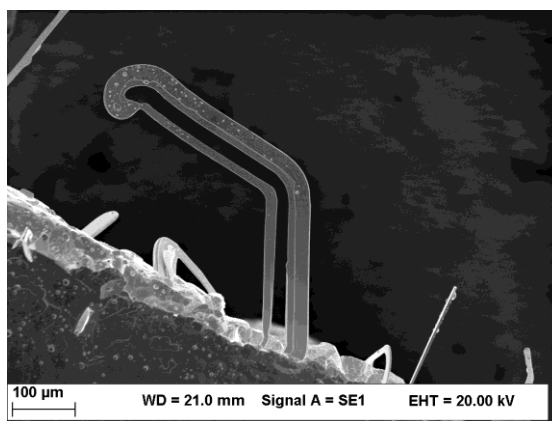


Fig. 1 Electron microscopy image of curved objects of $\text{Bi}_2(\text{SrCa})_2\text{Co}_2\text{O}_y$ such as bows and a kinked whisker with missing stripes.