OC20: Bimetallic precursors for focused particle-based deposition

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In recent years new precursors for charged particle deposition techniques have been synthesized and their performance tested using experimental conditions. In these studies, significant improvements in the understanding of fragmentation processes in the electron-induced fragmentation as well as ion-based process have been gained [1].
In this contribution, we present differences and similarities for FEBID [2] and Ga-FIBID [3] writing of Co/Si-based material as well as currently acquired results for Fe/Si deposits from single source precursors. Deposition parameters have been altered and the changes in composition, growth rate, microstructure etc. have been determined. The electrical transport properties have been determined in two and four-probe configuration and the temperature dependence of the material has been recorded. We trace back differences in FIBID and FEBID-derived materials to composition and microstructure, while discussing also differences in magnetotransport [3].

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References
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