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Abstract

In this study, we investigate the structural and functional properties of high-entropy oxide thin films fabricated using pulsed laser deposition. The films exhibit a single-phase crystalline structure confirmed by X-ray diffraction and transmission electron microscopy. Electrical transport and magnetic measurements indicate that lattice strain strongly influences the physical behavior of the material. These findings demonstrate the potential of entropy-stabilized materials for next-generation multifunctional electronic applications.

Figures and Tables with Captions

Figure 1. Structural characterization of high-entropy oxide thin films.

Table 1. Summary of deposition conditions and measured physical properties.

References

1. Rost, C. M. et al., Entropy-stabilized oxides, Nat. Commun. 6, 8485 (2015).
2. Sarkar, A. et al., High entropy oxides for advanced energy storage, Adv. Mater. 31, 1806236 (2019).