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Modelling the structure of disordered cerium oxide thin films

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***Highlights (for review)**

HIGHILIHGTS

- This work represents an application of the Stochastic Matrix Method (SMM) to the growth of rare earth materials.
- It is the first time that the oxidation state of a mixed valence compound is predicted theoretically depending on the conditions during the growth of the material.
- The model makes predictions that could be verified by experiments.
- The material under study is of great technological importance and has many applications.