

## **Pervoskite ABO<sub>3</sub> Thin Film Growth by Ozone Assisted Molecular Beam Epitaxy**

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Ozone assisted Molecular Beam Epitaxy is a powerful tool for the growth of good quality oxide thin film, with two principal modifications of the traditional molecular beam epitaxy technique. The first modification is the creation of an oxidizing ambient; in our case, we have chosen pure ozone produced by a distillation process. The second modification is the inclusion of an in situ non-invasive measurement of atomic fluxes in real time. With atomic layer-by-layer growth, we have successfully grown SrTiO<sub>3</sub> thin film by this modified Ozone assisted MBE system. In-situ ARPES measurement is conducted on the epitaxial film. In spite of some band shift induced by charging effect, the clear valance band peak indicates high crystal quality and clean surface. For future plan, other transition metal pervoskite ABO<sub>3</sub> thin film such as La<sub>1-x</sub>Sr<sub>x</sub>MnO<sub>3</sub>, La<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub> will be grown and investigated by in-situ ARPES measurement, to reveal the rich physics of transition metal oxide and the interaction between thin film and substrate.