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Investigation of 2-dimentional electron liquid at the interface of La(1-x)Al(1+x)O3/SrTiO3 MING SHIU TSAI, WEI FAN HSU, HAO YU CHEN, WEI LI LEE, Academia Sinica, Taiwan, ACADEMIA SINICA, TAIWAN TEAM — The emergence of two dimensional electron liquid (2DEL) at the interface between two insulating oxides of lanthanum aluminate (LaAlO3) and strontium titanate (SrTiO3) shows unusual superconductivity and magnetism compared to conventional semiconductor-based 2DEG systems. One important issue resides on the influence of the stoichiometry to the 2DEL. Here, we report the structrual analysis and magneto-transport results on a series of La(1-x)Al(1+x)O3/SrTiO3with different x grown by oxide molecular beam epitaxy (OMBE) with in-situ growth monitoring using reflection high electron energy diffraction (RHEED). Detailed low temperature magneto-transport data and its correlation to the stoichiometry and film strain will be presented and discussed

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