

# **La<sub>1.85</sub>Sr<sub>0.15</sub>CuO<sub>4</sub> thin film growth and in-situ ARPES**

Youngdo Kim <sup>a,b</sup>, Changyoung Kim <sup>a,b</sup>

<sup>a</sup> Center for Correlated Electron Systems, Institute for Basic Science, Seoul 08826, Korea

<sup>b</sup> Department of Physics and Astronomy, Seoul National University, Seoul 08826, Korea

Email: twoyoung95@snu.ac.kr

Cuprate thin films are showing novel physical properties that are different from bulk, such as strain effects from substrate or proximity effects of heterostructure. And their electronic structures can be directly probed by Angle-resolved photoemission spectroscopy(ARPES). Since ARPES is highly surface sensitive, it requires a flat and clean surface of sample and UHV transfer process to carry out thin film ARPES. We have grown La<sub>1.85</sub>Sr<sub>0.15</sub>CuO<sub>4</sub> (LSCO) thin film On LaSrAlO<sub>4</sub>(LSAO) Substrate by pulsed laser deposition(PLD). The thickness of the film was monitored with in-situ reflection high energy electron diffraction(RHEED). With our UHV transfer system connected with PLD and ARPES chamber, we performed in-situ ARPES on LSCO thin film. We obtained Fermi surface map data and measured superconducting gap at the antinodal region of the band.