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Temperature Evolution of the Pseudogap and Superconducting Gap in Bi₂Sr₂CaCu₂O₈ Superconductor Studied by High Resolution Time-of-Flight Laser-ARPES YUXIAO ZHANG, XINGJIANG ZHOU, Chinese Academy of Sci (CAS) — The relationship between the pseudogap and superconducting gap in high temperature cuprate superconductors remains an outstanding issue. In this talk, we will present our high resolution laser-ARPES measurement on Bi₂Sr₂CaCu₂O₈ superconductor. We will use the latest generation of ARPES system equipped with the VUV laser and the time-of-flight (TOF) electron energy analyzer. This enables us to have super-high energy resolution, high momentum resolution, simultaneous coverage of two-dimensional momentum space, high data acquisition efficiency and much reduced nonlinearity effect. From detailed temperature dependence near the nodal and antinodal regions, we will discuss on the relationship between the pseudogap and superconducting gap in the cuprate superconductors.

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