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**A PUMP PROBE ANGLE-RESOLVED PHOTOEMISSION STUDY OF HIGH TEMPERATURE
SUPERCONDUCTORS**

Angle resolved photoemission spectroscopy (ARPES) has been a powerful tool in the study of high temperature superconductivity. The past few years have seen a big rush first toward the realization of laser-based ARPES experiments and then to extend laser-ARPES to the time realm. Adding this new dimension allows probe changes of the electronic band structure in real time. Here we present one of the first experiments using ultra-high resolution angle-resolved photoemission spectroscopy to optically pump and probe an optimally doped $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+x}$ superconductor. An unexpected suppression of the spectral weight following the pump laser excitation is observed. Its peculiar temperature and momentum dependence and its implications for superconductivity will be discussed.