

Abstract Submitted
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**Quasiparticle dynamics in overdoped
 $\text{Bi}_{1.4}\text{Pb}_{0.7}\text{Sr}_{1.9}\text{CaCu}_2\text{O}_{8+\delta}$: Coexistence of superconducting gap
and pseudogap below T_c** SARITHA K. NAIR, XINGQUAN ZOU,
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Technological University, Singapore — Photoexcited quasiparticle relax-
ation dynamics in overdoped $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ ($T_c=65$ K, hole doping
 $p=0.22$) single crystal is investigated as a function of temperature. We
provide evidence of a ~ 22 meV pseudogap ($T^*\approx 100$ K) at this doping
level. Moreover, this pseudogap vanishes at T^* . Our data support the
scenario where both the superconducting gap and pseudogap coexist in
the superconducting state. Our results also suggest an increased scatter-
ing rate between electrons and spin fluctuations as the sample enters
the pseudogap phase. Phys. Rev. B **82**, **212503** (2010)

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