

UPC 2023: International workshop on the physics of Ultra Peripheral Collisions

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K+K- photoproduction in ultra-peripheral Pb-Pb collisions with ALICE

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In ultra-peripheral collisions (UPCs), the photon fluctuates to a quark-antiquark dipole which then elastically scatters off the nucleus, emerging as vector meson and opposite-charge pseudoscalar meson pair. The excellent particle identification capabilities of ALICE enable the study of photoproduced $\pi^+\pi^-$ and K^+K^- pairs at midrapidity in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. We will present the exclusive K^+K^- photoproduction cross section in ALICE, measured for the first time in UPCs. We will discuss about the interference between resonance contribution of $\phi(1020) \rightarrow K^+K^-$ and direct pair production, obtained from a fit to the invariant mass spectrum of K^+K^- pairs, with comparison to the $\pi^+\pi^-$ system.

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