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Direct CP Violation in the Decay $B^+ \to K^+\pi^0$ at LHCb[1] ZISHUO YANG, University of Maryland, College Park, LHCB COLLABORATION — Measurements of CP asymmetries in B-meson systems can be a powerful way to probe for physics beyond the Standard Model. A new measurement, the most precise to date, of the direct CP asymmetry in the decay $B^+ \to K^+\pi^0$ has been performed at LHCb. This direct CP asymmetry is a key input to the studies of a long-standing anomaly in B-meson decays, known as the $K\pi$ puzzle. I will present the new result, which is consistent with the previous measurements and significantly strengthens the anomaly.

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Zishuo Yang
University of Maryland, College Park

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