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Strangeness Production in 19.6 GeV Collisions at RHIC KYLE ENGLUND-KRIEGER, United States Naval Academy, STAR COLLABORATION — Particles carrying strange quarks carry information about the matter produced in high-energy nuclear collisions. Previous measurements of strange particle yields and spectra have proved useful as gauges of mid-rapidity baryon density, partonic collectivity, and strangeness enhancement and saturation. In the coming year, RHIC will begin a beam energy scan in search of evidence for a possible critical point in the phase diagram of nuclear matter. High precision measurements of strangeness production in lower energy collisions at RHIC and comparisons with high energy measurements will provide deeper understanding the evolution of nuclear matter with beam energy. We present mid-rapidity transverse momentum spectra for Λ , Anti- Λ , and K_s^0 short particles from $\sqrt{s_{NN}} = 19.6$ GeV Au+Au collisions collected by the STAR experiment at RHIC. These results, from the second lowest beam energy used at RHIC so far, represent an initial step in the search for a critical point in the nuclear phase diagram and help fill-in the gaps in our understanding of strangeness production across a wide range of energy from AGS to RHIC. Our results will be compared with previous measurements from SPS, top RHIC energy, and with available model calculations.

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