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Centrality dependence of the N(Ω)/N(ϕ) ratios and ϕ anisotropic flow SARAH BLYTH, Lawrence Berkeley National Laboratory / University of Cape Town, STAR COLLABORATION — Due to its long lifetime and relatively small hadronic interaction cross-section, the ϕ-meson is a clean probe for studying the properties of the hot and dense medium created in high-energy nuclear collisions. We present the first results of the centrality dependence of the N(Ω)/N(ϕ) ratios and ϕ anisotropic flow (v_2) from $\sqrt{s_{NN}}$ = 200 GeV Au+Au collisions measured by STAR at RHIC. In more central collisions, the eccentricity-scaled anisotropic flow (v_2/ϵ) is large, indicating a stronger collective expansion at the early partonic stage. For p_T >2 GeV/c, the v_2 values are consistent with the v_2 values of other mesons, and expectations from parton recombination models. In addition, the N(Ω)/N(ϕ) ratio is found to increase linearly as a function of p_T, a characteristic of coalescence of thermal quarks for both ϕ and Ω. In the most central collisions, the linear increase reaches up to p_T ~4 GeV/c implying that most of the multistrange hadrons are formed directly from thermalized s-quarks in Au+Au collisions at RHIC.

Sarah Blyth
Lawrence Berkeley National Laboratory / University of Cape Town

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