1	Anisotropic flows of ϕ mesons in Au+Au collisions at
2	$\sqrt{s_{NN}} = 3 \text{ GeV}, 7.2 \text{ GeV} \text{ from STAR}$
3	Ding Chen (for STAR collaboration)
4	University of California, Riverside
5	January 8, 2021

The ϕ meson is composed of strange quarks $(s\overline{s})$ and has a small hadron scattering 6 cross section which reduces the influence of rescattering in the later stage of heavy-ion 7 collisions [1,2]. Thus anisotropic flows of ϕ mesons are sensitive to the early stages of 8 the collisions and are important observables for the study of QCD phase diagram at 9 RHIC. In this talk, we will present measurements of anisotropic flows of ϕ mesons in 10 Au+Au collisions from the STAR fixed-target program (FXT). ϕ mesons are recon-11 structed through the decay channel $\phi \to K^+ + K^-$. We will compare our new results 12 with STAR Beam Energy Scan I (BES-I) results [3,4]. 13

14 References

- ¹⁵ [1] Asher Shor. Phys. Rev. Lett. 54, 1122. (1985)
- ¹⁶ [2] Cheng, Y. and Liu, F. and Liu, Z. and Schweda, K. and Xu, N. Phys. Rev. C 68, 034910. (2003)
- 17 [3] L. Adamczyk et al. (STAR Collaboration). Phys. Rev. C 88, 014902. (2013)
- ¹⁸ [4] L. Adamczyk et al. (STAR Collaboration). Phys. Rev. Lett. **120**, 062301. (2018)