

1 Dielectron Production in Au+Au Collisions at  
2  $\sqrt{s_{NN}} = 3.0$  GeV at STAR

3 Guannan Xie (LBNL)

4 for the STAR Collaboration

5 November 23, 2021

6 Dileptons can be produced at all evolution stages of a heavy-ion collision system. They  
7 can traverse the medium without suffering from strong interactions, and thus are penetrat-  
8 ing probes of the QCD matter created in heavy-ion collisions. Dilepton pairs of different  
9 kinematics are sensitive to different properties of the produced matter, for example the  
10 dilepton thermal radiation can serve as a thermometer of the medium.

11 In this poster, we will report on the first measurement of dielectron production in  
12 Au+Au collisions at  $\sqrt{s_{NN}} = 3$  GeV, recorded in the fixed-target mode at STAR. The  
13 efficiency corrected dielectron spectra are reported, as well as the cocktail simulation of  
14 known hadronic sources performed in the same kinematic region. The result will be com-  
15 pared to other measurements, including those at lower energies from HADES and higher  
16 energies from NA60 and STAR BES. Future perspectives will also be discussed for this  
17 high baryon density region.