

1 Pseudorapidity distributions of charged particles measured with the  
2 STAR Event Plane Detector in  $\sqrt{s_{NN}} = 19.6$  and 27 GeV Au+Au  
3 collisions

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6 **Abstract**

7 In 2018, STAR installed the Event Plane Detector (EPD) with a pseudorapidity coverage of  $2.15 < |\eta| < 5.09$ .  
8 The EPD has enhanced STAR's capabilities in triggering, centrality measurement and event plane determination.  
9 Due to its fine radial granularity, it can also be utilized to measure pseudorapidity distributions of charged  
10 particles. In order to make such a measurement, the response of the detector material to the produced primary  
11 particles has to be understood. Monte Carlo simulations are used to determine the detector response matrix  
12 which is then used in an iterative unfolding procedure to obtain the corrected pseudorapidity distributions.  
13 As a first step towards such measurements at even lower energies, we present the results on charged particle  
14 pseudorapidity distributions measured with the EPD in  $\sqrt{s_{NN}} = 19.6$  and 27 GeV Au+Au collisions.