

Abstract Submitted  
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**The iTPC upgrade for BES-II**<sup>1</sup> FLEMMING VIDEBAEK, Brookhaven National Laboratory, STAR COLLABORATION — STAR has proposed to upgrade the inner sectors of the STAR TPC to increase the segmentation on the inner pad-plane and to renew the inner sector wires. The upgrade will provide better momentum resolution, better  $dE/dx$  resolution and, most importantly, it will provide improved acceptance at high rapidity to  $|\eta| \leq 1.5$  compared to the current TPC configuration of  $|\eta| \leq 1$  and to extend the pt coverage towards lower pt. The enhanced measurement capabilities of STAR after the iTPC upgrade are a vital part of the BES-II effort for 2019-2020. The expanded rapidity coverage provides a major benefit for many analyses, especially those sensitive to changes in correlation lengths near a critical point, like the net-proton Kurtosis which exhibits interesting energy trends that only appear near the edge of the current STAR acceptance. In the area of dielectron measurements it reduces hadron contamination from a dominant source of uncertainty to an expected statistical uncertainty of only 10%, and will enable significantly improved understanding of in-medium modifications. In this talk I will discuss the physics impact and give a technical overview of the detector upgrade.

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