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## Upgrade of Projectile Spectator Detector at NA61/SHINE experiment

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The NA61/SHINE is a fixed target experiment at SPS (CERN) aimed to study proton-ion and ion-ion collisions with the energy range 13 – 150 AGeV. A new physics program of the NA61/SHINE experiment beyond 2020 includes open charm measurements. The increased by an order of magnitude beam rate requires detectors upgrade to work with high trigger rate and to survive in new high radiation conditions.

The Projectile Spectator Detector (PSD), a sampling hadron calorimeter, is used in the NA61/SHINE experiment to measure the collision centrality and reconstruct the event plane. Instead of the present PSD, two forward calorimeters are used. The first one is modified current PSD with beam hole in the center and the second one is a new calorimeter with small transverse sizes placed downstream to detect heavy fragments. Details of the PSD upgrade as well as results of the performance studies for new calorimeter system with simulations will be presented.

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