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A low-pressure focal plane detector for the K600

A new position sensitive detector system for the focal plane of the K600 magnetic spectrometer is currently being developed. The existing focal plane detectors (FPDs) were designed to detect $Z \leq 2$ ions with kinetic energies 30 MeV/u or higher. A new low-pressure gas-filled tracker combined with a stopping scintillator detector is required to allow for the efficient detection of heavier particles ($Z > 2$) over a range of kinetic energies, as well as light particles ($Z \leq 2$) at lower kinetic energies (< 30 MeV/u). The different physics cases currently envisaged that require the low-pressure gas-filled detector will be reviewed, and an overview of the design of the new FPD will be presented.

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