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Design and Performance of the Future Cluster-Jet Target for PANDA at FAIR

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An internal cluster-jet target will be one of the two target
stations for the planned PANDA experiment at the antiproton accelerator
and storage ring HESR/FAIR.
Due to the significance of investigations of antiproton-nucleon interactions for PANDA,
hydrogen and deuterium are of largest interest as target material.
This type of target allows for a high and constant target
density at the interaction point as well as for the possibility
to vary the target density continuously during operation.
The prototype of the cluster-jet target has been built up in
complete PANDA geometry and set into operation at the University of Münster.
Using this prototype, important information on the future target
properties such as target beam dimensions and absolute target
thickness at the interaction point, i.e. 2m behind the nozzle, can be gained directly.
The design concept of the cluster generator for PANDA and the achieved performance will be presented.

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Classifica Sessioni: Accelerator physics and detectors I

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