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The dependence of the energy resolution of a hemispherical deflection analyzer on the distance h between the exit focal plane and the detection plane

Content :

Hemispherical deflector analyzers (HDAs) are equipped with a position sensitive detector (PSD), but geometrical constraints do not always allow for their optimal placement. As a part of the APAPES research initiative [1] and in an effort to improve HDA resolution and PSD energy linearity, we investigate the h -dependence of the energy resolution and line shape in a biased paracentric HDA by installing a piezo-electric motor on the shaft on which the PSD is supported. The setup, at the 5MV TANDEM of the NCSR "Demokritos", is primarily dedicated to 0° Auger projectile spectroscopy, performing high resolution studies of electrons emitted from ion-atom collisions.

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