

Material studies at the LEPTA facility with positron annihilation spectroscopy

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Positron annihilation spectroscopy (PAS) is a method dedicated to detection of open-volume defects such as vacancies and their clusters in structures. Nowadays, this technique is of a great interest due to the practical character of obtained results. It is successively applied in the field of material science, surface engineering and ion modification.

Recently PAS studies have been provided at the LEPTA facility at JINR. Researches using positrons emitted directly from the radioactive source and from slow positron beam are possible. In this way defects located on the depths from unit nanometers up to micrometers can be simply found. In the frame of the presentation the basics of PAS, current status of facility and directions of development will be discussed. An example of PAS application at the LEPTA in studies of Palladium, iron and copper samples irradiated with heavy ions at IC-100 cyclotron of Flerov Lab. Of Nuclear Reactions will be shown as well.

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