Channeling 2016



Contribution ID: 111 Type: Poster

Charge-exchange radiation

Tuesday, 27 September 2016 18:40 (0 minutes)

In the charge-exchange accelerators, negatively charged accelerated ions loss their electrons in a thin charge-exchange target and become positively charged ions. In the present paper, radiation arising at charge-exchange of non-relativistic ions a thin transparent charge-

exchange target is considered. The formula for spectral and angular distribution of the number of quanta emitted by the hydrogen ion that change its charge from -1 to +1 is obtained. It is shown that the distributions of charge-exchange radiation are independent of the target

properties. This means that the nature of charge-exchange radiation is different from the transition radiation. The yield of the charge-exchange radiation exceeds one due to the transition radiation that is emitted by the ion with permanent charge with the same velocity.

The research was supported by the Ministry of Education and Science of the Russian Federation, project 3.2009.2014/K.

Primary author: Dr SHCHAGIN, Alexander (Kharkov Institute of Physics and Tecknology)

Presenter: Dr SHCHAGIN, Alexander (Kharkov Institute of Physics and Tecknology)

Session Classification: PS2: Poster Session