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Charge-exchange radiation

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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.
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