

## Channeling 2018



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### On the Validity of the Baier-Katkov Formula

The semi-classical Baier-Katkov formula, which gives the energy-angle spectrum of the radiation by ultra-relativistic electrons in a non-uniform electric or magnetic field, involves only the classical trajectory of the initial electron. We show that it can be obtained with the JWKB method when the external field is described by a potential four-vector independent of the transverse coordinates. Its application in channeling radiation is criticized.

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