

S-MATRIX AND THE AHARONOV–BOHM EFFECT

*Yu.A. Sitenko*¹, *N.D. Vlasii*^{1,2}

¹Bogolyubov Institute for Theoretical Physics,
Nat. Acad. of Sci. of Ukraine
(14b, Metrolohichna Str., Kyiv 03680, Ukraine;
e-mail: yusitenko@bitp.kiev.ua),

²Physics Department,
Taras Shevchenko National University of Kyiv
(64, Volodymyrska Str., Kyiv, 01601)

S u m m a r y

The S -matrix for the Aharonov–Bohm scattering is considered, and the optical theorem is derived. The persistence of the Fraunhofer diffraction in the short-wavelength limit is shown to be crucial for maintaining the optical theorem in the quasiclassical limit.