On Compensation of Beam Depolarization at Crossing of a Spin Resonance

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Abstract

The method of preservation of beam polarization at crossing of spin resonance in cyclic accelerators is offered.

This method is based on control the spin precession axis and the spin rotation phase inside of the resonance region.

An analytical solution for an arbitrary resonance crossing speed is presented.

Results are essential for production of the intensive polarized beams of high energy particles.

The numerical examples are presented.