Review of: "BeamLeakage: Does Polarization (of Positron) Optimize? More on Accelerators too?"

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Potential competing interests: No potential competing interests to declare.

General Comments

The manuscript titled “Beam Leakage: Does Polarization (of Positron) Optimize to 70% More on Accelerators Too?” addresses the issue of reducing beam leakage in accelerators, specifically focusing on optimizing the polarization of positrons up to 70%. To achieve this objective, the author introduces a method involving the manipulation of boundary conditions to attain a higher polarization ratio. The proposal of an instrumental test based on the theory of gluons prequenching is particularly noteworthy, as it not only holds significant relevance for enhancing precision in measurements but also gives the possibility to minimize the accelerator's size. However, I have some remarks and minor comments that I leave to the author’s discretion to correct without further review.

Remarks

1. Introduction: The sentence ”Specifically, one may think in terms of the coherent mini-sub-beams .....in the Appendix” requires further explanation or reformulation to clarify its meaning and its relation to reference 1 for the reader.

2. Page 2: The author should add the equation or denote it in the appendix to facilitate legibility and comprehension.

3. Page 4: The diagram ”circle with sign ”+” and ”-” ” lacks sufficient information and explanations.

Minor Comments

1. Page 3: The parameters Ls and Lm should be defined.

2. Throughout the work: To enhance the organization of this work, I recommend that the author include additional headings to distinguish between sections such as the introduction, discussion, and conclusion.