



Contribution ID: 2837 Contribution code: SUPM010

Type: **Poster Presentation**

## Spin-polarization simulations for the Future Circular Collider e+e- using Bmad

*Sunday, 7 May 2023 16:00 (2 hours)*

The high precision measurement of the centre-of-mass energy in the Future Circular Collider e+e- (FCC-ee) at Z and W energies can be realized through resonant spin depolarization utilizing transversely polarized beams. This requires a guaranteed sufficiently-high spin polarization in the presence of lattice imperfections. Investigations of the impact of misalignments on the equilibrium polarization are conducted using analytical and Monte-Carlo spin simulations with Bmad. Potential optimization schemes to ensure high polarization using orbit bumps have been explored.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

**Primary author:** WU, Yi (Ecole Polytechnique Fédérale de Lausanne)

**Co-authors:** CARLIER, Felix (Ecole Polytechnique Fédérale de Lausanne); BARBER, Desmond (Deutsches Elektronen-Synchrotron); GIANFELICE-WENDT, Eliana (Fermi National Accelerator Laboratory); VAN RIESEN-HAUPT, Léon (European Organization for Nuclear Research); PIELONI, Tatiana (European Organization for Nuclear Research)

**Presenter:** WU, Yi (Ecole Polytechnique Fédérale de Lausanne)

**Session Classification:** Student Poster Session