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## Probing FCC-ee energy calibration through resonant depolarization at KARA

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The FCC-ee collider physics program requires a precise determination of the center-of-mass energy. The average energies of the two colliding beams can be measured by resonant depolarization (RDP) of polarized electron and positron bunches. The depolarization is achieved by an electromagnetic device, e.g., a strip line, excited at a sweeping frequency. Once the excitation frequency is equal to the spin precession frequency, which is directly proportional to the beam energy, the polarization is lost or reduced. At KARA the resonant frequency is routinely measured via the change of the Touschek lifetime. We report on an RDP beam measurement campaign at the Karlsruhe Research Accelerator (KARA), exploring how this technique could be applied at the FCC-ee. In particular, we examine the sensitivity of the inferred value of beam energy to various parameters, such as the depolarize scan speed, the scan direction, and the beam operation energy.

### Footnotes

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