

# Progress in the center-of-mass energy calibration and monochromatization at FCC-ee

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The CERN Future Circular electron-positron Collider (FCC-ee) will enable extreme precision physics experiments from the Z-pole up to above the top-pair production threshold. Very precise beam energy measurements will be performed by resonant depolarization (RD) of e+ and e- pilot bunches, using novel 3D-polarimeters. Additional measurements will be needed to reduce the center-of-mass energy uncertainty to the level of the statistical precision of 4 keV ( $m_Z, \Gamma_Z$ ) and 250 keV ( $m_W$ ) expected for key Standard Model parameters. In addition, monochromatization of the beams, down to a few MeV, is necessary to observe the resonant s-channel  $e^+e^- \rightarrow H(125)$  production; of which a first optics implementation has been achieved.

## Alternate track

### I read the instructions above

Yes

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