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Progress on the electron ion collider's RCS RF ramp development

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We report on progress developing the Energy and RF ramp for the EIC's Rapid Cycling Synchrotron (RCS). The development of the RF voltage and phase ramp from injection energy at 400 MeV to 5, 10 and 18 GeV extraction energy requires control of the bunch's longitudinal aspect ratio to avoid both collective instabilities, RF bucket height and width as well as lattice dynamic aperture limits. Further the ramp profile must meet the technical limits for the current super conducting cavity design.

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Footnotes

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