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# Beam loading compensation in charge-varying scenarios with RF-Track

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High intensity linacs based on compact accelerating RF structures suffer from beam loading effects, which result into a bunch-to-bunch energy loss as a consequence of the beam-induced excitation of the fundamental accelerating mode. To track charged particles under this effect, the code RF-Track implemented a beam loading module in version 2.2.2. For ultrarelativistic scenarios in travelling-wave structures, the simulation tool was limited to trains of bunches with equal charge per bunch. In this work, we present the latest update of the beam loading module in version 2.3.0, extending its capabilities to account for this effect in trains with different charges per bunch and allowing the performance of beam loading compensation studies in these scenarios.

## Footnotes

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