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Update of the RF-Track particle tracking code

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The tracking code RF-Track has been updated to include a large set of single-particle and collective effects: beam loading in standing and travelling wave structures, coherent and incoherent synchrotron radiation, intra-beam scattering, multiple Coulomb scattering in materials, and particle lifetime. This new set of effects was focused on the simulation of high-intensity machines such as linacs for medical applications. In these apparatuses, the beam propagation into air and water significantly impacts the beam propagation to and through the patient. Now, these effects can be included by design. Additionally, RF-Track can now simulate the cooling channel of a future muon collider.

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Footnotes

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Yes

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