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Correct account of RF deflection in Linac acceleration
\[
\frac{sp}{zd} \frac{0zd}{dp} \frac{0x}{x} \frac{1}{p} = 0x - x = xp \\
\frac{lp}{0x} = 0x - x = xp
\]

angle before the acceleration. For a short structure of length \( l \),

\[
0x \approx (zd/p + 0zd)/xd = x
\]

This means that the angle after passing the cavity is

\[
zdp + 0zd \leftarrow 0zd
\]

increases, \( zdp \) decreases. Only the longitudinal momentum of the particle

cavity or RP structure. Only the longitudinal momentum of the particle
\

It is usually assumed that during acceleration, in an asymmetric

\textbf{I E t a J i t i o n s}
where \( l \) is the length of the structure. These equations are used in

\[
\frac{0z \, d}{z \, d \nabla} + \frac{1}{z \, d} = x
\]

\[
\left( \frac{0z \, d}{z \, d \nabla} + 1 \right) \ln \frac{z \, d \nabla}{0d} \int_{0x}^{\infty} x + 0x = x
\]

Assuming a constant acceleration gradient, one finds

\[
\frac{z \, d}{x \, d} = x \, d \, \varepsilon / H \varepsilon = x
\]

If one where to find the transformation from \( x, x' \) to \( x', \varepsilon \), one should integrate the infinitesimal change of the longitudinal momentum in the acceleration is

\[
\frac{(s) \, z \, \varepsilon}{x \, d} = (s \, x \, d) H
\]

These equations can be obtained from Hamiltonian.
which is exactly two times smaller than predicted above:

\[
\frac{sp}{zd p} \frac{0z d}{0x} p - \frac{0z d}{0x d} - \frac{z dp + 0z d}{x dp + 0x d} = \frac{zp}{x p}
\]

Formula for \( dp \),

\[
\frac{zd}{zd p} \frac{x d z}{1} = x dp
\]

axis gets a kick in the transverse direction, due to the fringe field in the cavity, a particle near the accelerator (1968) (that the assumption of \( xd \) during acceleration is not correct. Due to the fringe field in the cavity, a particle near the Standard two mile

It has been pointed out long time ago (97)
\[
\frac{0^z d}{z dp} \frac{0^x \mathcal{Z}}{I} - 0^x x = x
\]

\[
\frac{0^z d}{z dp} x \frac{\mathcal{Z}}{I} - 1^0 x + 0^x = x
\]

The relation between \( x^0 \), \( x \), and \( x^0 \), now becomes

Transverse fields of the accelerating mode:

This offset is due to the radial drift in the cavity under the influence of

\[
\frac{z d}{z dp} x \frac{\mathcal{Z}}{I} = \eta p \frac{z d}{z d} x \frac{\mathcal{Z}}{I} = \frac{x dp}{H \mathcal{Q}} \eta p = xp
\]

offset in the transverse direction by \( dx \),

Hamiltonian that, after the passage of the cavity, the particle will be

It follows from the

Indeed, now

\[
\frac{z d}{(s) z d} x dx \frac{\mathcal{Z}}{I} - \frac{(s) d \mathcal{Z}}{x d} = (s^x x d) H
\]

Second term

The RF deflection can be included into the Hamiltonian by adding a
acceleration in the cavity with effect of the RF deflections.

These equations constitute a Hamiltonian map that describes the

\[
\left( \frac{\partial / \partial \nabla}{\partial \nabla} \right) \exp \left( \frac{\partial / \partial \nabla + 1}{\partial \nabla} \right) \exp \left( \frac{\partial / \partial \nabla \lambda \partial \lambda}{\partial \nabla \lambda} \right) \left( \int \frac{\partial / \partial \nabla \lambda \partial \lambda}{\partial \nabla \lambda} \right) = x
\]

Again, for a finite value of \( \partial \nabla \lambda \partial \lambda \) one have to integrate the differential
2 Simulation Results

Figure 1: Beam orbits in the NLC Main Linac calculated with the two modifications of LIAR.
Figure 2: The two orbits on a smaller scale.
Figure 3: The difference orbit.
Gain in one structure to the particle energy is larger will be more pronounced for smaller energies, whereas the ratio of energy.

that the effect on the beam dynamics is relatively small. However, it computational engine of LIAF. The simulation for the main LHC shows

We included the effect of RF deflections during acceleration in the

Summary