<band structure>

Go to $3\pi/4$ (?)

- Less energy loss
- 102 cells vs 114 before

\[ \begin{array}{c}
\text{Frequency (GHz)} \\
3.0 & 3.5 & 4.0 & 4.5 & 5.0 \\
\end{array} \]

\[ \begin{array}{c}
\text{Phase ($\phi/2\pi$)} \\
0.0 & 0.1 & 0.2 & 0.3 & 0.4 & 0.5 \\
\end{array} \]

\[ \text{\(\sigma\) - data from Fenghai} \]

\[ \text{--- circuit model results} \]
Trapezoidal Frequency Distribution

(2.5 ns)
nominal bunch spacing

Wake at 2nd bunch

swa[kd][2,1]

swa[kd]rms

swa[kd]rms

swa[kd]rms

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\[ \frac{df}{d} \]

\( \int_{\text{nominal}} f = 3.926 \)
Vs total frequency spread
$v_s \parallel \ell, \alpha$

Graphs showing various parameters against $\alpha$. Parameters include $\text{swa kd avr0}$, $\text{swa kd rms}$, $\text{swa avr0}$, and $\text{swa rms}$.
Optimal: $\bar{f} = 3.916 \, \text{kHz}$

$\Delta f/f = 6\% \quad \Delta \phi = -0.18$
kick factor
$[\sqrt{\text{pcm} \times \text{cm}}]$
Nominal Bunch Spacing (2.8 m) [scaled to x band]