

Some Thoughts on a Decelerator for CTF3

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Introduction

- Need to demonstrate drive beam stability
- Need to benchmark models
- Main drive beam problems are
 - Large energy spread at end of decelerator
 - Strong wakefield effects
 - Potential beam losses (accidental or permanent)

Requirements

- Want to introduce energy spread of at least factor 2 (approx. 75 MeV extraction)
- Best would be factor 10 (approx. 135 MeV extraction)
- Beam current only 35 A
 - About 20*4 CLIC PETS
- Can only use limited number of structures
 - Need larger shunt impedance
- Try 16 structures for the moment
 - Impedance 3x that of CLIC PETS
 - Wakefield effects more important in CTF3 than in CLIC