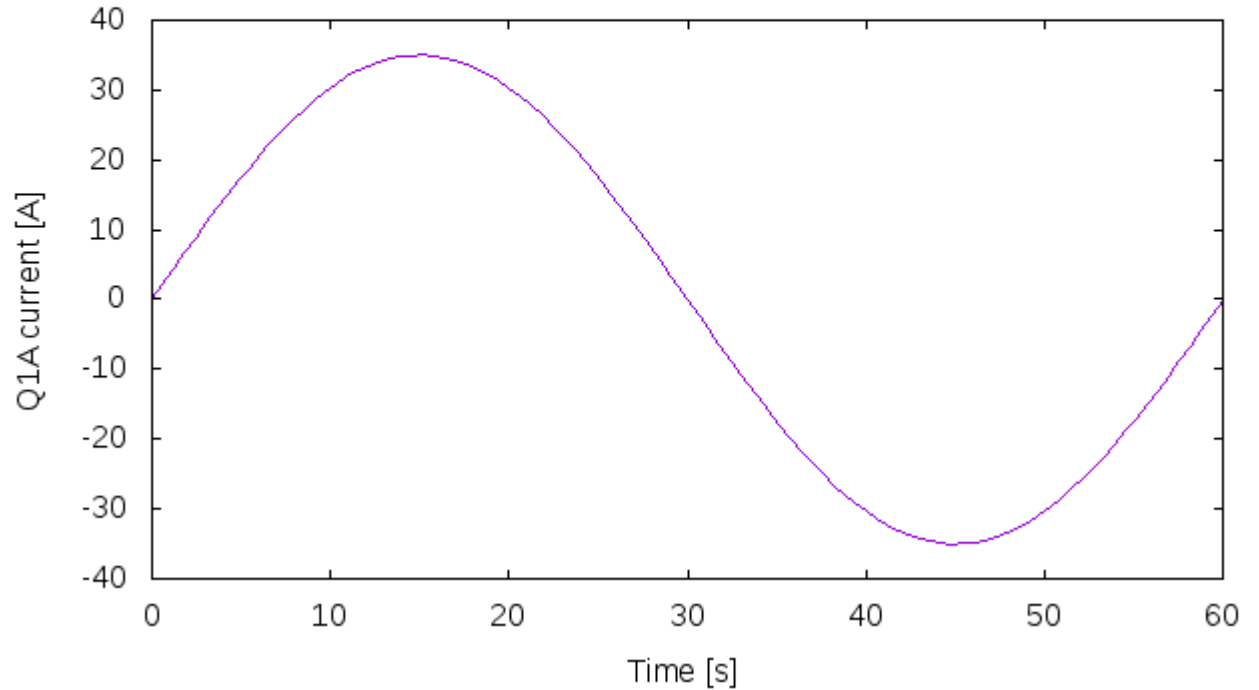# Flux jumps during K-modulation?

R. Tomas, J. Coello & M. Hofer
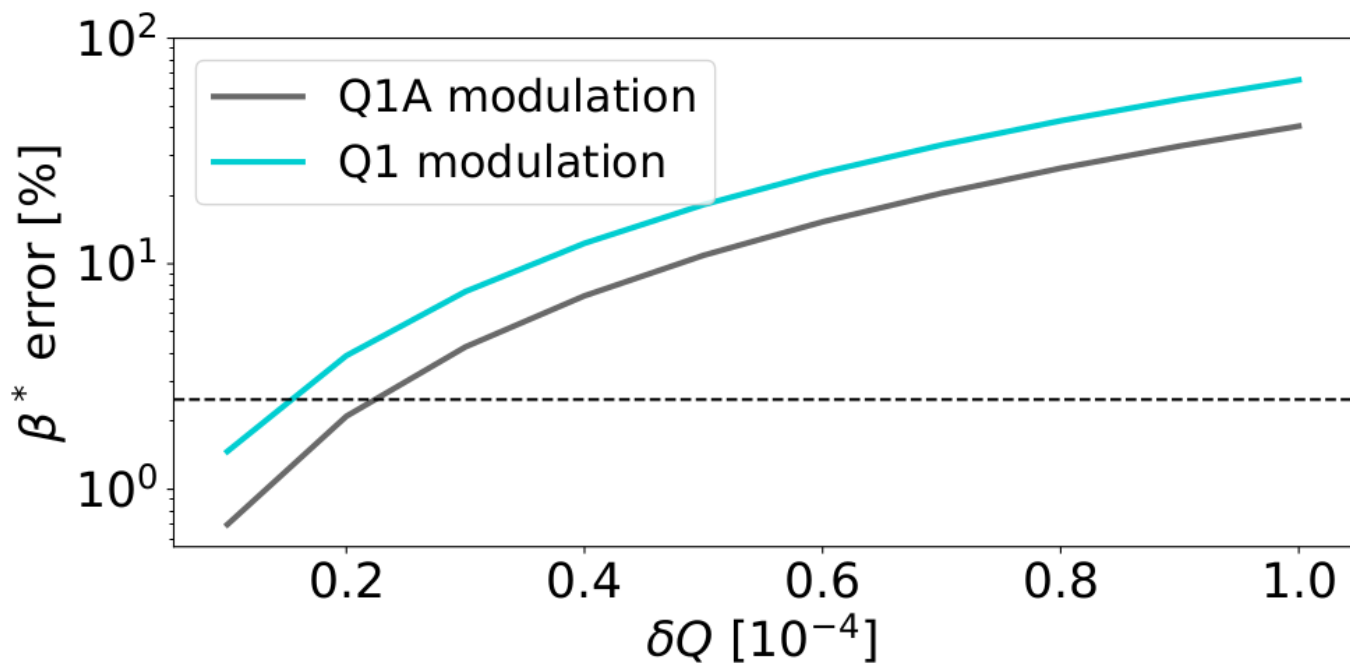
K-modulation

- K-modulation is used to measure β^* at top energy.

- Q1A current is changed while recording tune change

- Max. Q1A rate is 3.32 A/s during k-mod

Tolerance on tune uncertainty

- Target β* accuracy is 2.5%

- This requires a tune uncertainty of 2×10^{-5}

- Could flux jumps during k-mod increase tune jitter?

- A Q1A field change of 0.5 ppm causes 2×10^{-5} tune change

Summary

- Flux jumps as small as 0.5 ppm in Q1A could be a concern during k-mod

- Will they happen?

- Can we measure them?