

FFA Design Considerations from Extraction Perspective

- Aim to have resonant **slow extraction** to extract second-long beams.
 - Requires adding four components:
 - Resonant sextupole (Difficult to extract with FFA k2 str.)
 - Extraction septum & magnetic septum
 - Transverse exciter for RF-KO extraction (constant tune)
- Restrictions on **phase-advance** between these components.
 - Gives **limited geometry**: had to treat components as thin lens, and in undesirable locations (i.e. within FFA magnet)
- Prelim study performed (IPAC23), but **optics update needed**, and dedicated student to continue study.
- Question benefit of **spiral sector vs straight sector** w.r.t compactness and space between cells.
- Decision to be made on race-track design or not

