

LUXE weekly meeting

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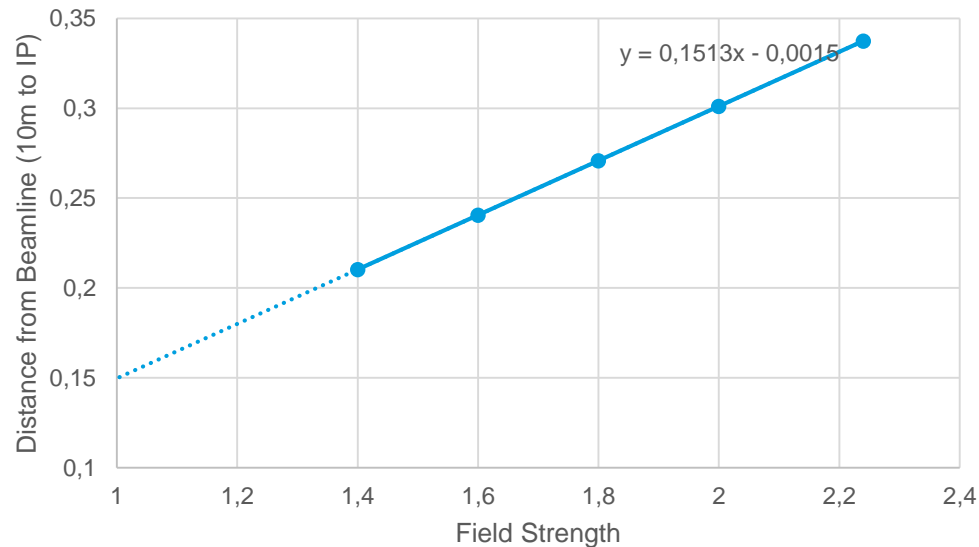
Working with the polarimeter code

Update

- New constraints at the new location
- Trying different configurations, magnet length, transversal detector size, drift lengths for both locations

Magnetic Field Strength Limits

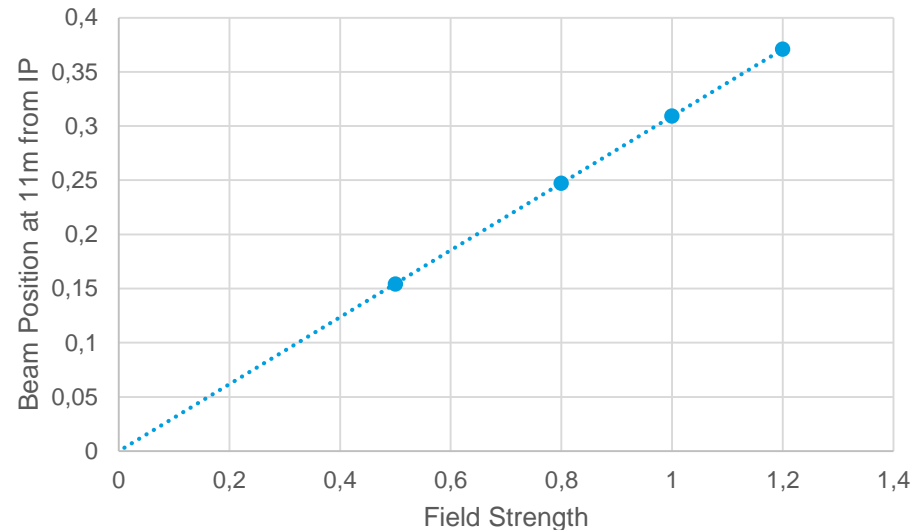
1m Dipole for beamdump location



- Constraint from Machine at beamdump location:
10m Behind IP: transversal distance: 20cm from Beamline

Using more space at new Location: Longer magnet?

example 2m magnet with lower field strength



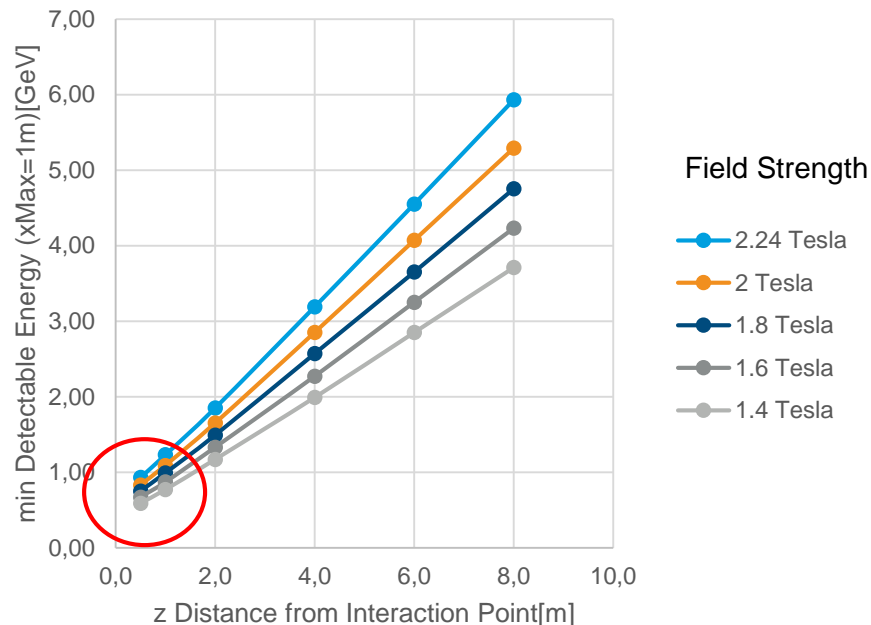
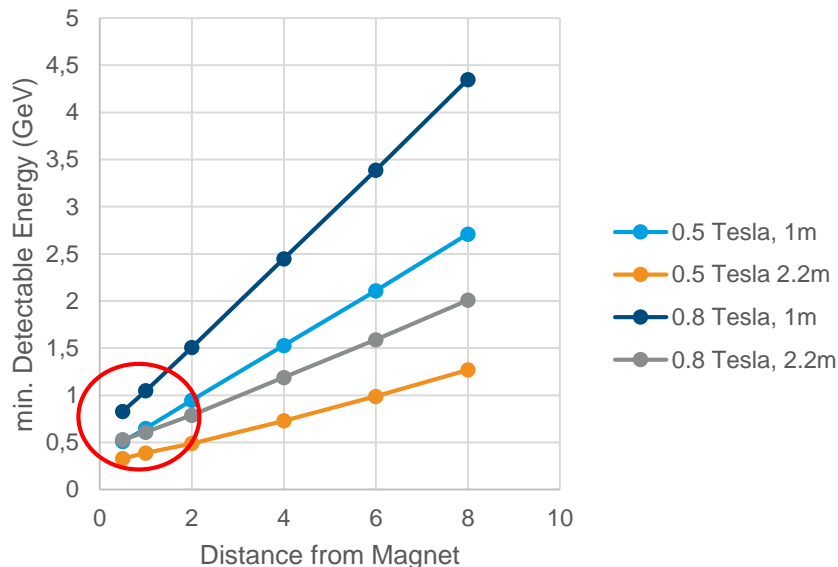
- ~0.8 Tesla seems like a good working point if 20 cm restriction necessary
- does the 20cm restriction hold at new location?

Comparing both locations space restrictions

2m magnet

vs

1m magnet



Lower field strengths with a longer magnet seems possible from detector side (vacuum? Machine constraints?)

more space for detector yields gain in low energy positron detection

To Do

- ->implement actual detector
 - Tried some Geant4 tutorials last week, already use Geant or something faster?
 - Parameters?? pitch, layout.
- Somehow complete parameter space for the dummy code to run with.
 - Realistic magnet lengths and field strength,
 - Possible drift lengths,
 - dump position for both possible locations?
 - >find best working points for real sim