η coverage
– a proposal –

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12.06.2017
Monday meeting, CERN

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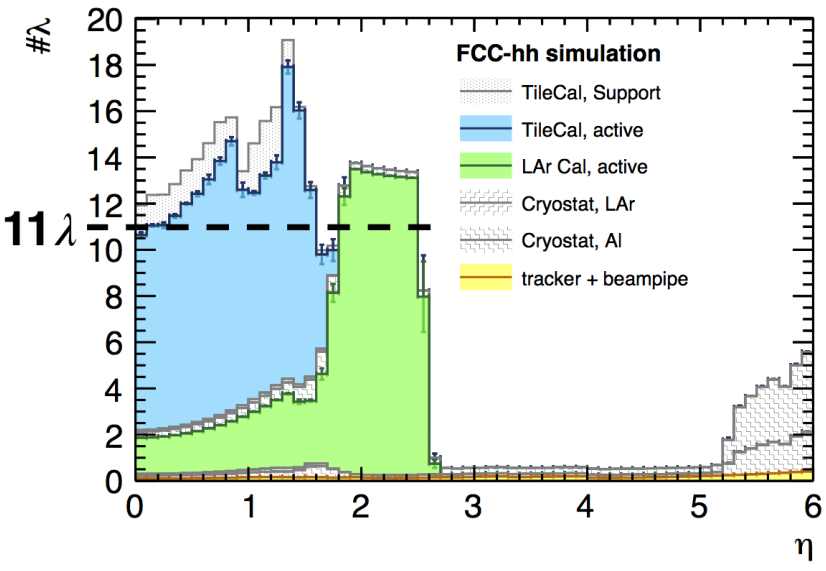
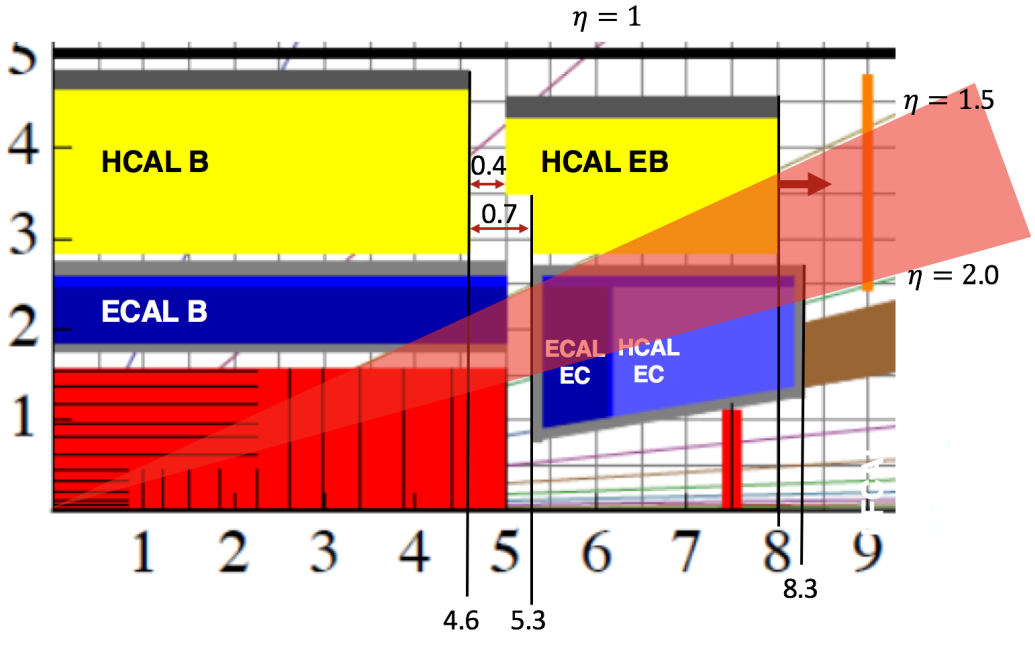
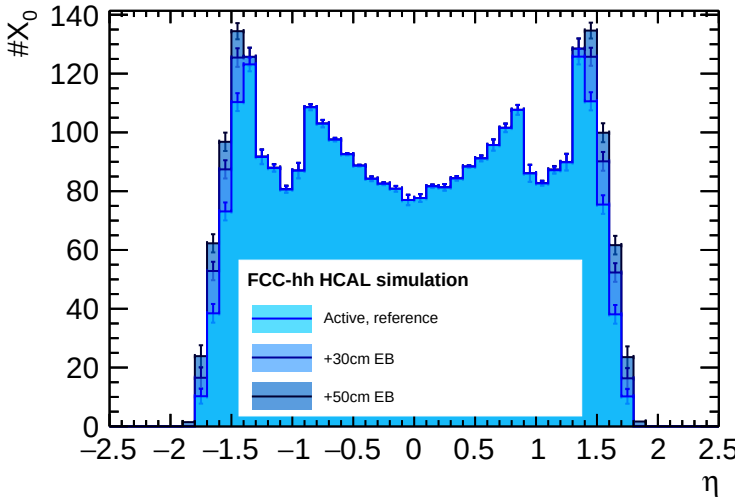
Material budget of FCC-hh **full B+EB+EC**

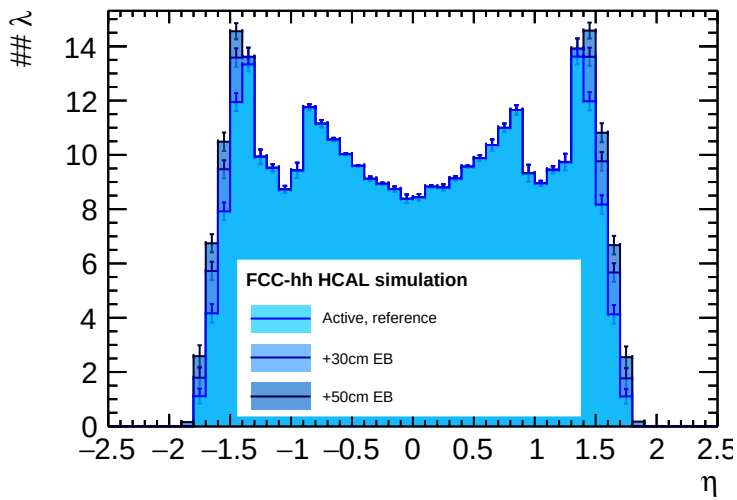
- good η coverage, dip $\#\lambda$ between $\eta = 1.5 - 2.0$ requires optimisation
- gap between HCAL E & EB $\sim 40\,\text{cm}$ – very conservative, same as in ATLAS
- longer HCAL EB for better η coverage
- tests with 30 cm (longer, as long as EC) and 50 cm (longerer, still 50 cm to muon wheel) EB



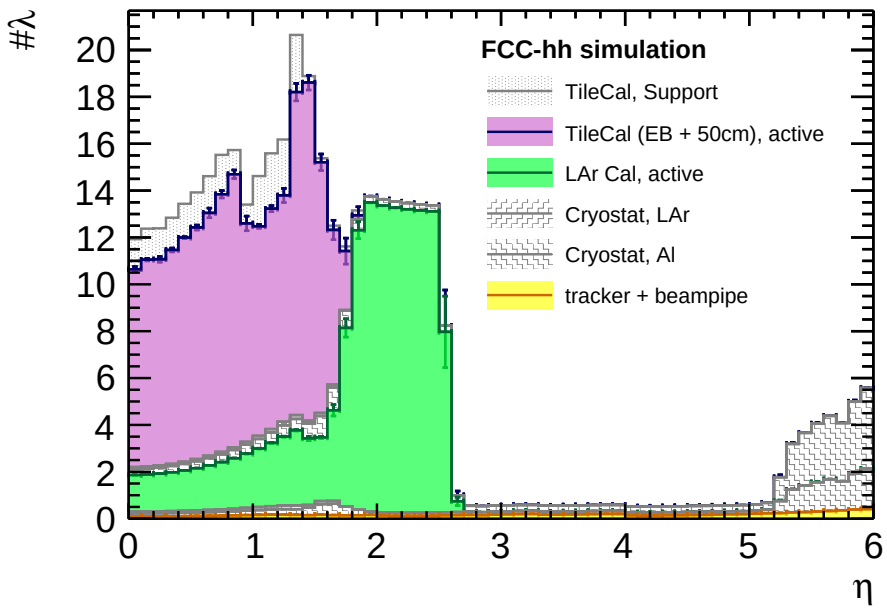


Tests of longer HCAL EB



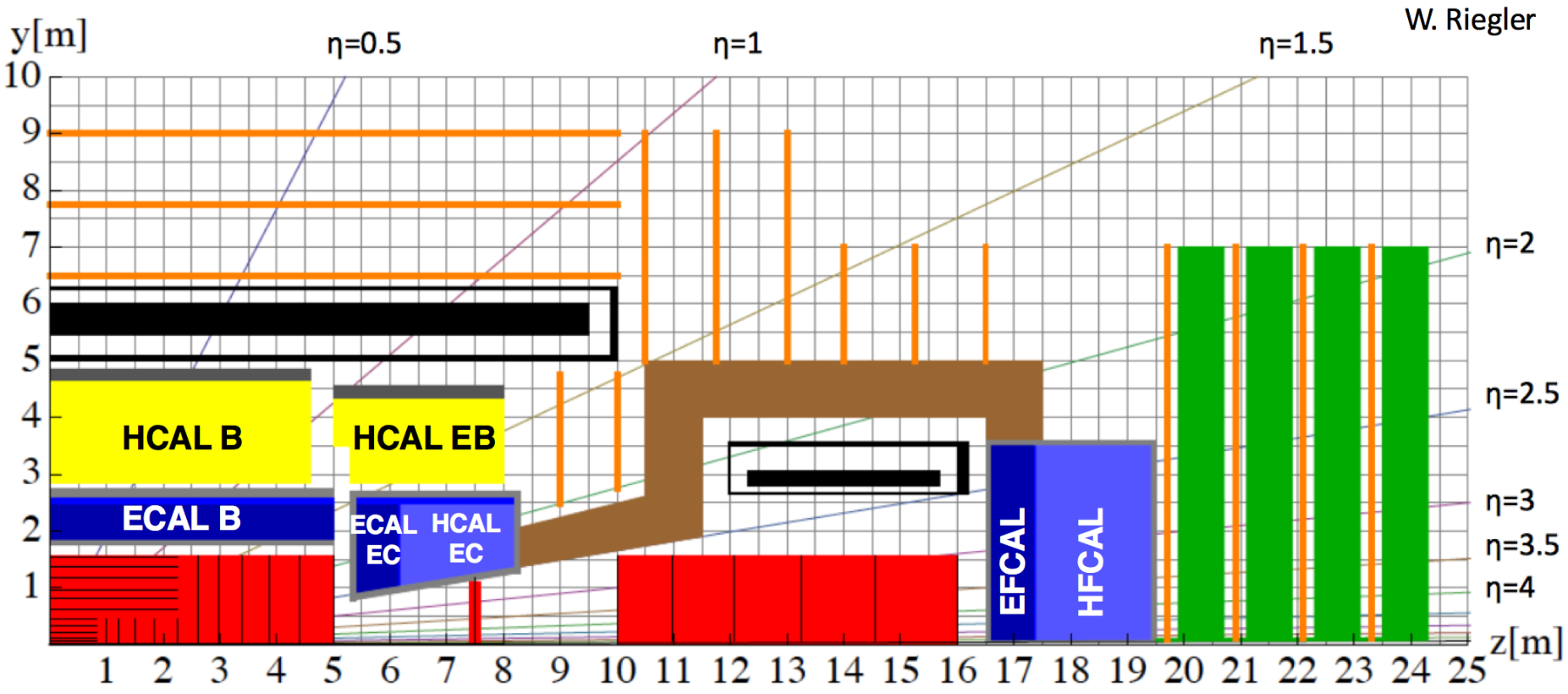


- longer EB increases $\#X_0$ and $\#\lambda$ especially in η region 1.5-2.0
- full detector with 50 cm longer HCAL EB –> 11 $\#\lambda$
- full detector with 30 cm longer HCAL EB –> 10 $\#\lambda$



FCC-hh reference detector

total length ∼47 m, height ∼18 m



- ∼ 1 m between HCAL EB and first muon wheel
- keeping space for ECAL cryostat supports