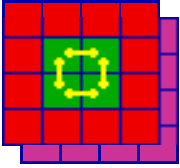


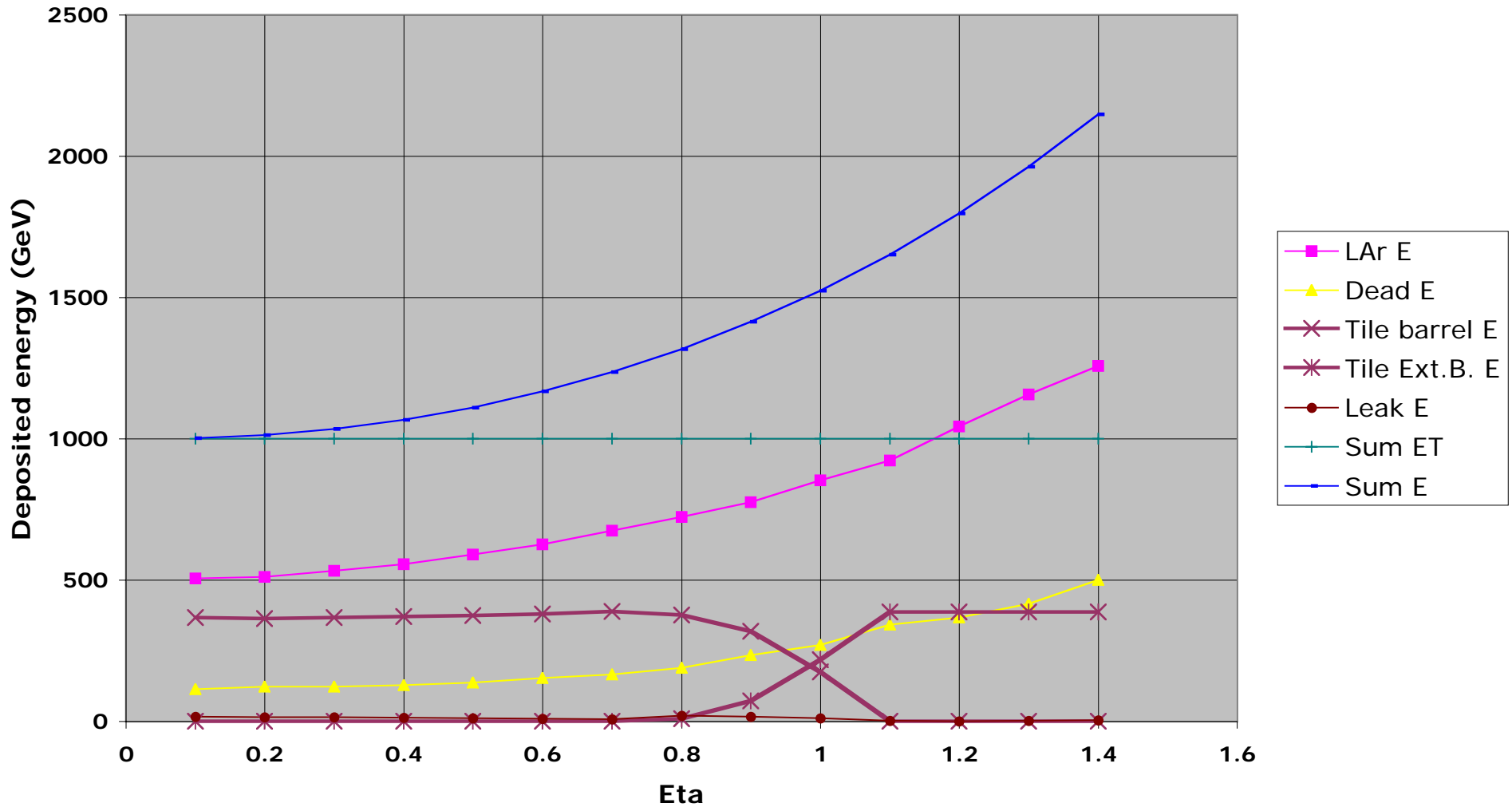
## ***TileCal summing-amplifier gain***

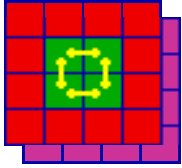
- **TileCal trigger summing amplifier FDR/PRR**
  - **Concluded that amplifier gain should be reduced from 8 to ~7, since otherwise might saturate for  $E_T < 256$  GeV in the TileCal extended barrel.**
    - ◇ **Also concluded that back-sample muon signal gain needed to be far larger.**
  - **However, Rupert Leitner then showed that for 1 TeV jets, dead material flattens the energy deposition in the TileCal — it does not seem to follow  $1/\sin(\theta)$ .**
  - **We asked Rupert for simulations at lower, non-saturating energies.**
- **The simulations parametrise hadronic energy deposition to agree with:**
  - **Full Monte Carlo simulation.**
  - **Test-beam data for single pions.**



# Results for 1 TeV jets

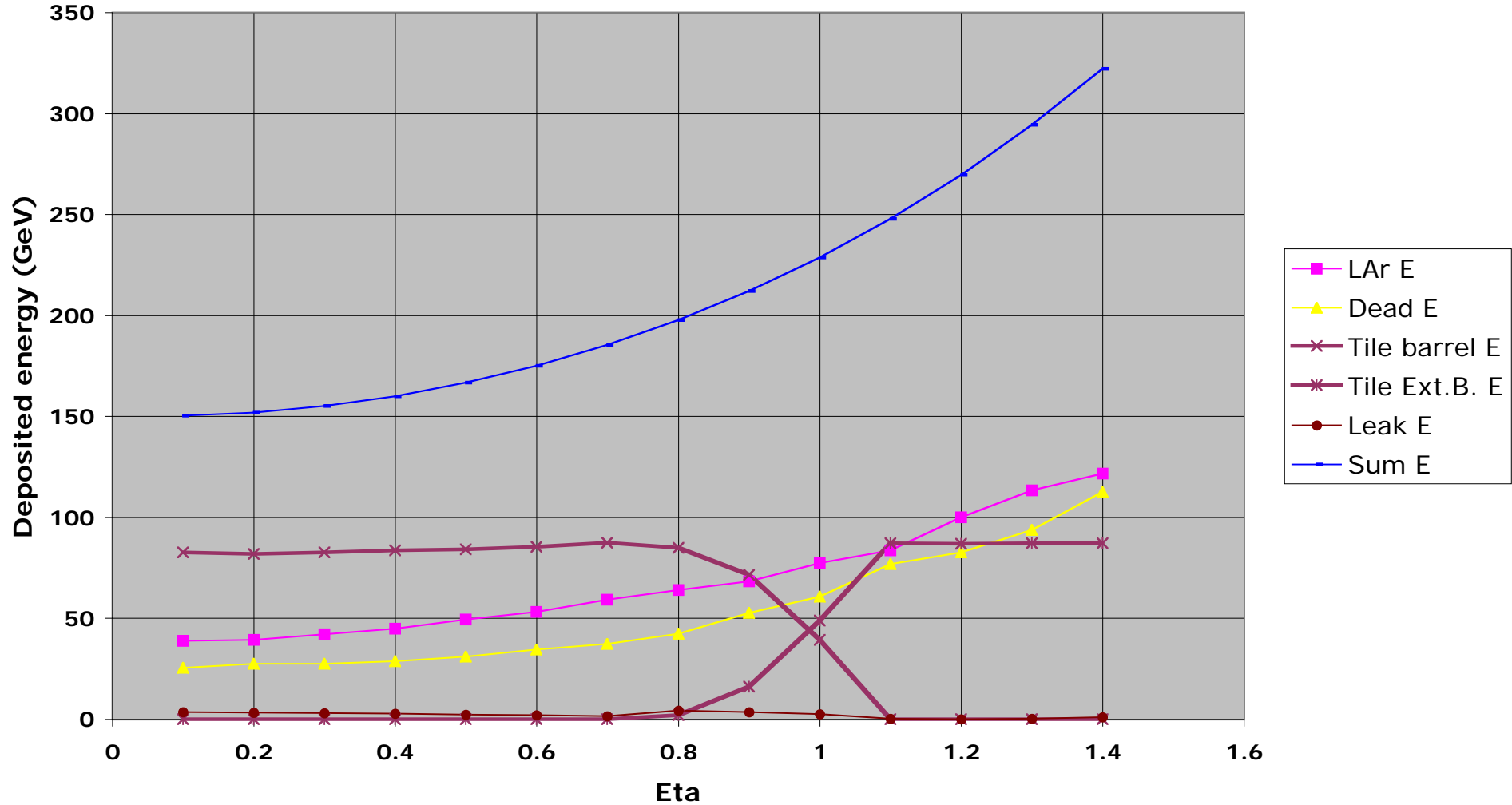
1 TeV jets

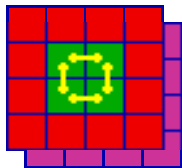




# Results for 150 GeV single pions

150 GeV pions





## Conclusions

- Results for 150 GeV jets (*not given in detail*) show similar effect to 150 GeV pions.
- It seems that the present choice of gain will not saturate for  $E_T < 256$  GeV in the TileCal extended barrel.
- Therefore, **leave the calorimeter trigger gain at 8.**
  - ✧ Gain for muon signals increased from 8 to 200.