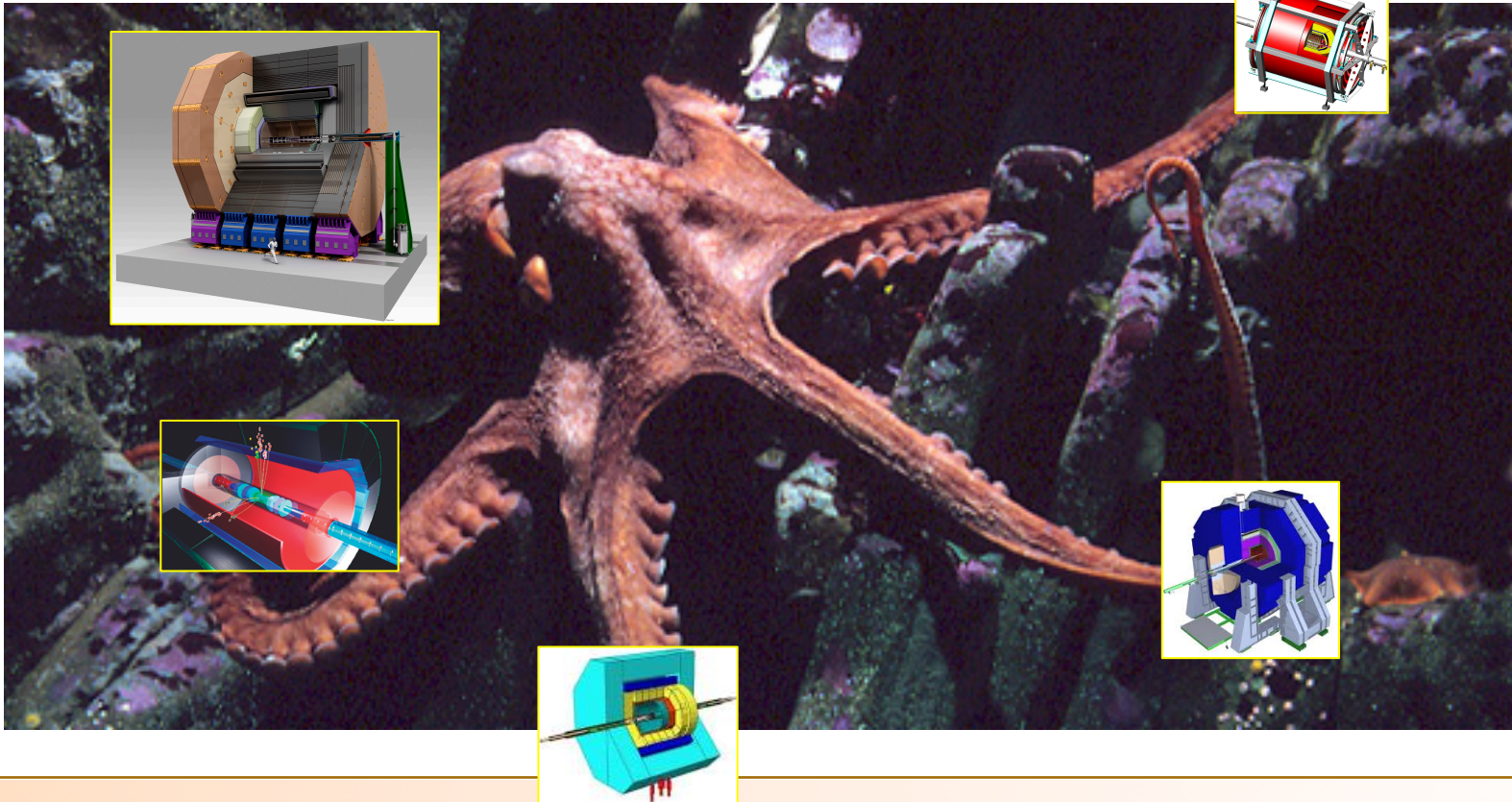




# Optimisation Software

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# Optimisation work



## ★ Possible optimisation tasks

Justification

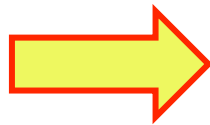
e.g. why does ILD choose a TPC?

Sub-system optimisation

e.g. VTX layout

Global optimisation

cost  
physics





# Justification



## Possible standalone studies (include)

### Study space

- ★ Understand impact of  $dE/dx$
- ★ Higgs BR precision dependence on momentum resolution
- ★ Flavour-tagging performance on VTX parameters layout
- point resolution
- ★ Value of ETD
- ★ ...

### Software needs?

- $dE/dx$  not in software
- Smear current DST
- Modified Mokka drivers
- Smear point resolution
- Tracking and PFA modifications



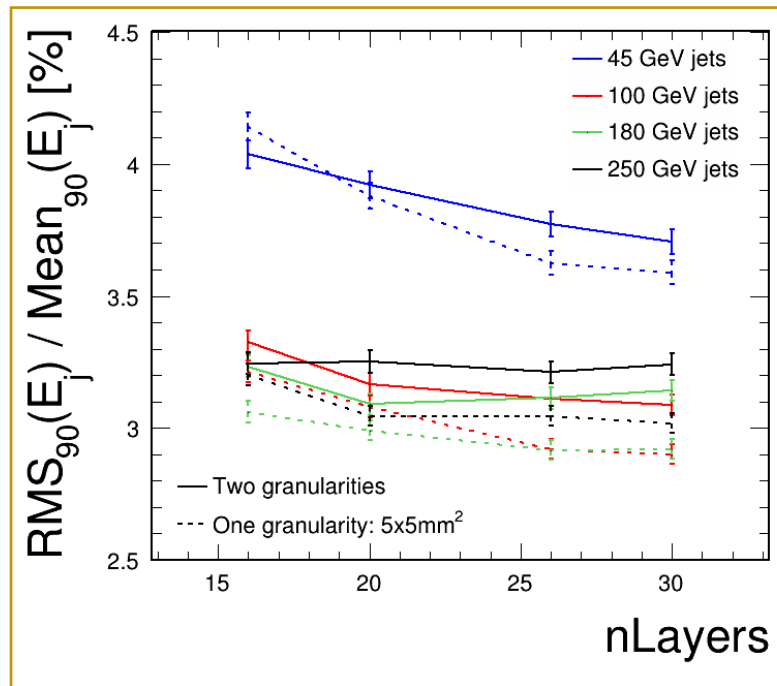
# Sub-system optimisation



## ★ Detailed studies mapping out performance...

- Deep connection to simulation/reco. software
  - Probably needs to be done **experts**

If want:



for

AHCAL

sDHCAL



- Software level:
  - e.g. sDHCAL algs. in Pandora



# Towards ILD MkII



★ Comparing physics performance for different models:



## Software

- Models in Mokka
- Validation/checking of reconstruction
- Event reconstruction
- Analysis software (exists, can be ressed)





# Conclusions



★ **If we are serious about ILD optimisation:**

➔ **requires serious software effort**

**over to Frank.....**



# Conclusions



★ **If we are serious about ILD optimisation:**

➔ **requires serious software effort**

**over to Frank.....**

