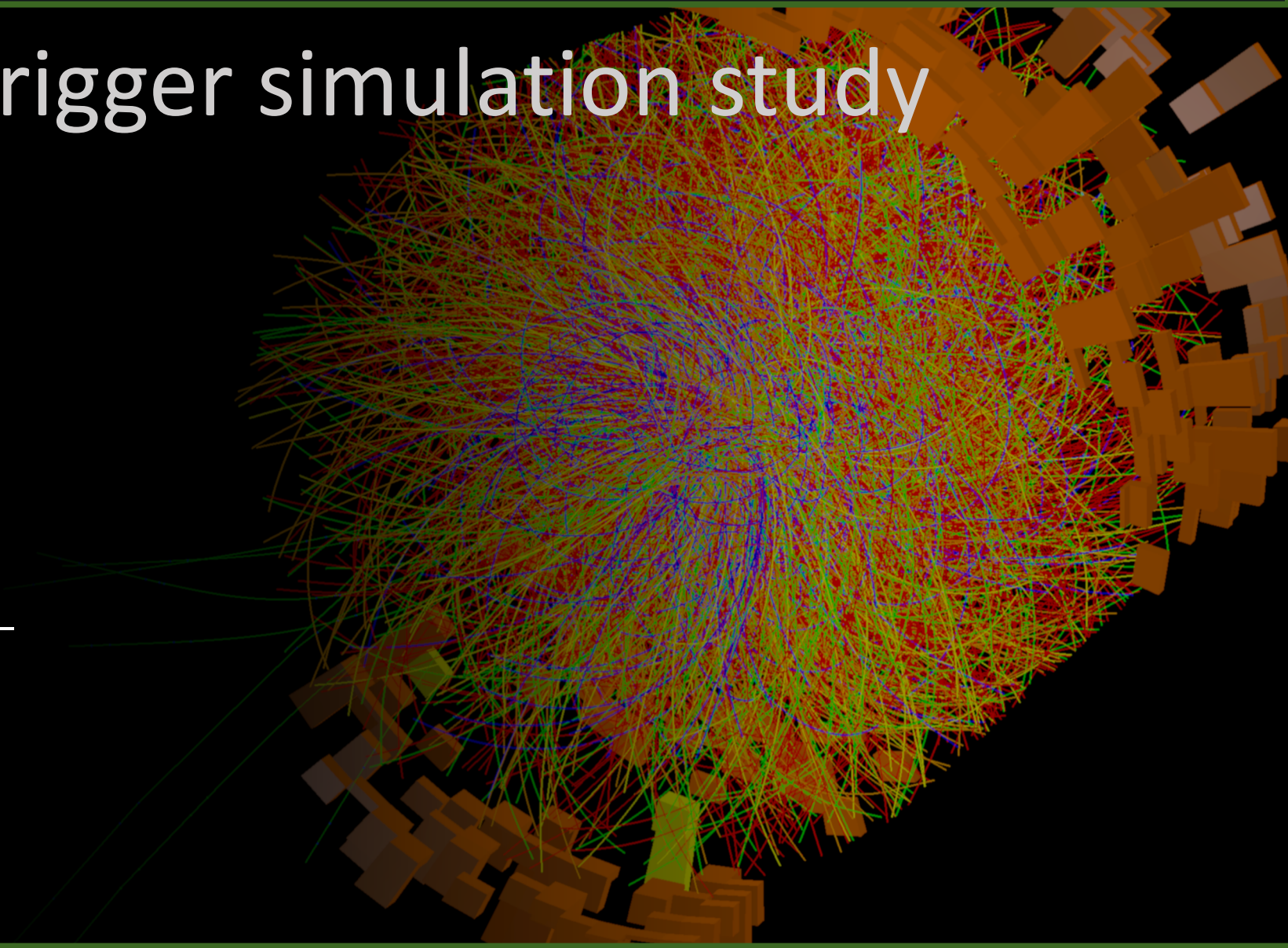
FoCal Geant 4 trigger simulation study



Tsukuba University
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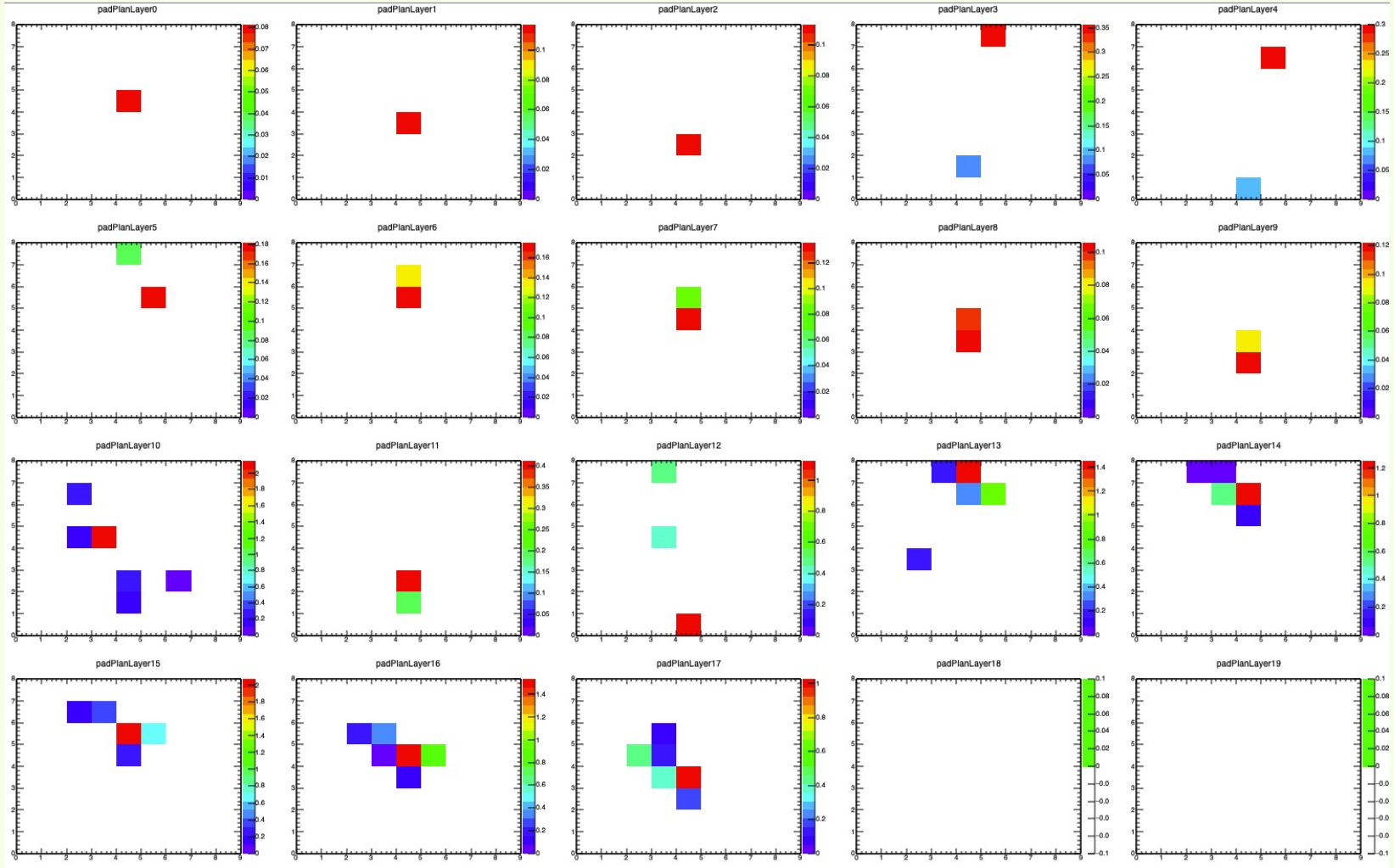
FoCal trigger study plan

- G4 install (done) ← last week
- Run the basic FoCal G4 simulatin code (done) ← last week
- Understand the output information (one week) ← last week
- Understand the FoCal geometory in G4 Code (a few weeks) ← last week
- Make a code to extract the information (ID, position, energy) for each aggregator board (2 weeks) ← This week
- plan algorithm how to fire trigger use for physics using aggregator bord information (a week) ← This week ← May
- inplement the trigger algorithm (1.5 weeks)
- check trigger performance (efficiency / purity) (energy/hitposition/angle/particle/background) (a few weeks) ← Jun
- make a code to convert energy information to real ASIC information (TOT/TOA/AOD) (2 weeks)
- …

make extraction code each pad information

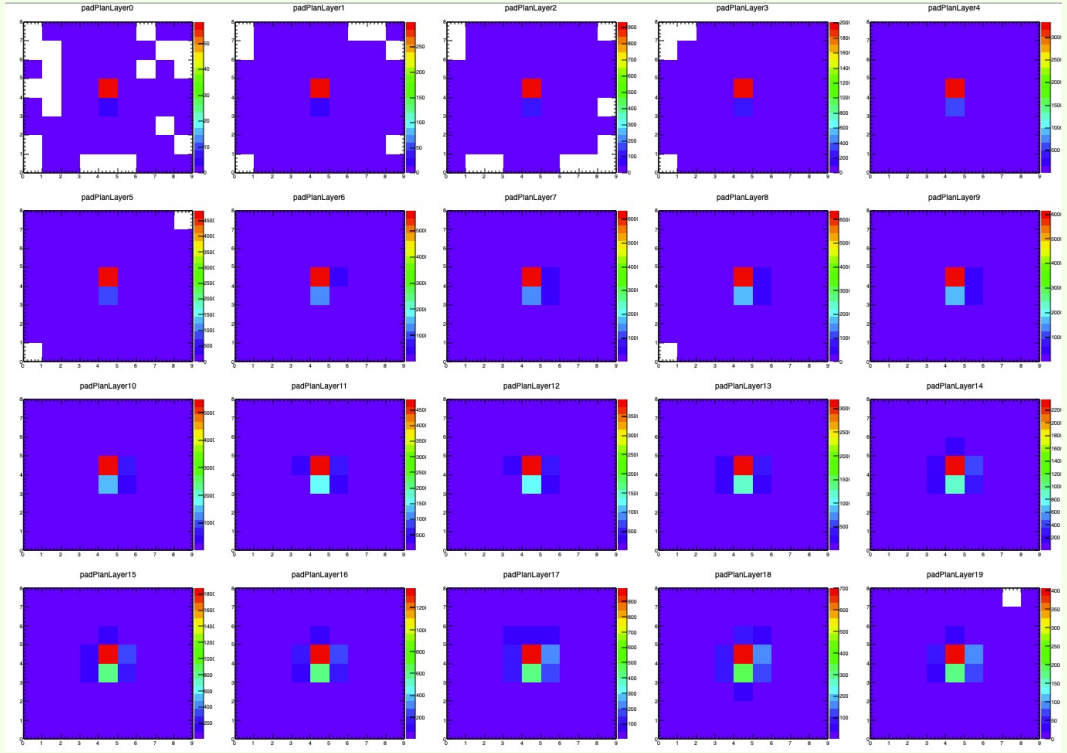
0 layer



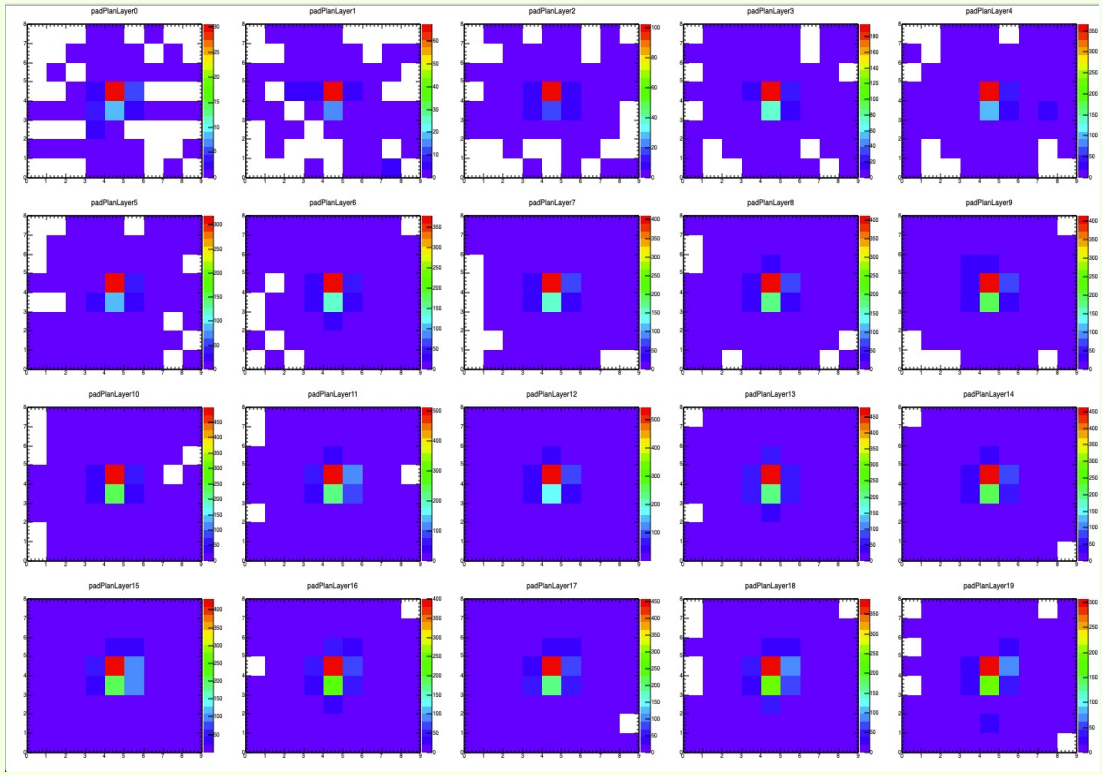
-> I could found its strange behavior came from mistake arraignment of pad id

20 layer

comparison gamma and neutron



←Gamma 100 GeV
100 events



Neutron 100 GeV
100 events →

Neutron events expansion show narrow than gamma events one on front layers

FoCal trigger study plan

- G4 install (done) ← last week
- Run the basic FoCal G4 simulatin code (done) ← last week
- Understand the output information (one week) ← last week
- Understand the FoCal geometory in G4 Code (a few weeks) ← last week
- Make a code to extract the information (ID, position, energy) for each aggregator board (2 weeks) ← This week
- understand Minho-san thesis ← This/Next week
- make a trigger to distinguish gamma and neutron according Minho-san Dr thesis. (consider energy, depth, expansion, and etc…) ← Next week
- plan algorithm how to fire trigger use for physics using aggregator bord information (a week)
- inplement the trigger algorithm (1.5 weeks)
- check trigger performance (efficiency / purity) (energy/hitposition/angle/particle/background) (a few weeks)
- make a code to convert energy information to real ASIC information (TOT/TOA/AOD) (2 weeks)
- …

May

Jun