CLAS Large Angle Calorimeter

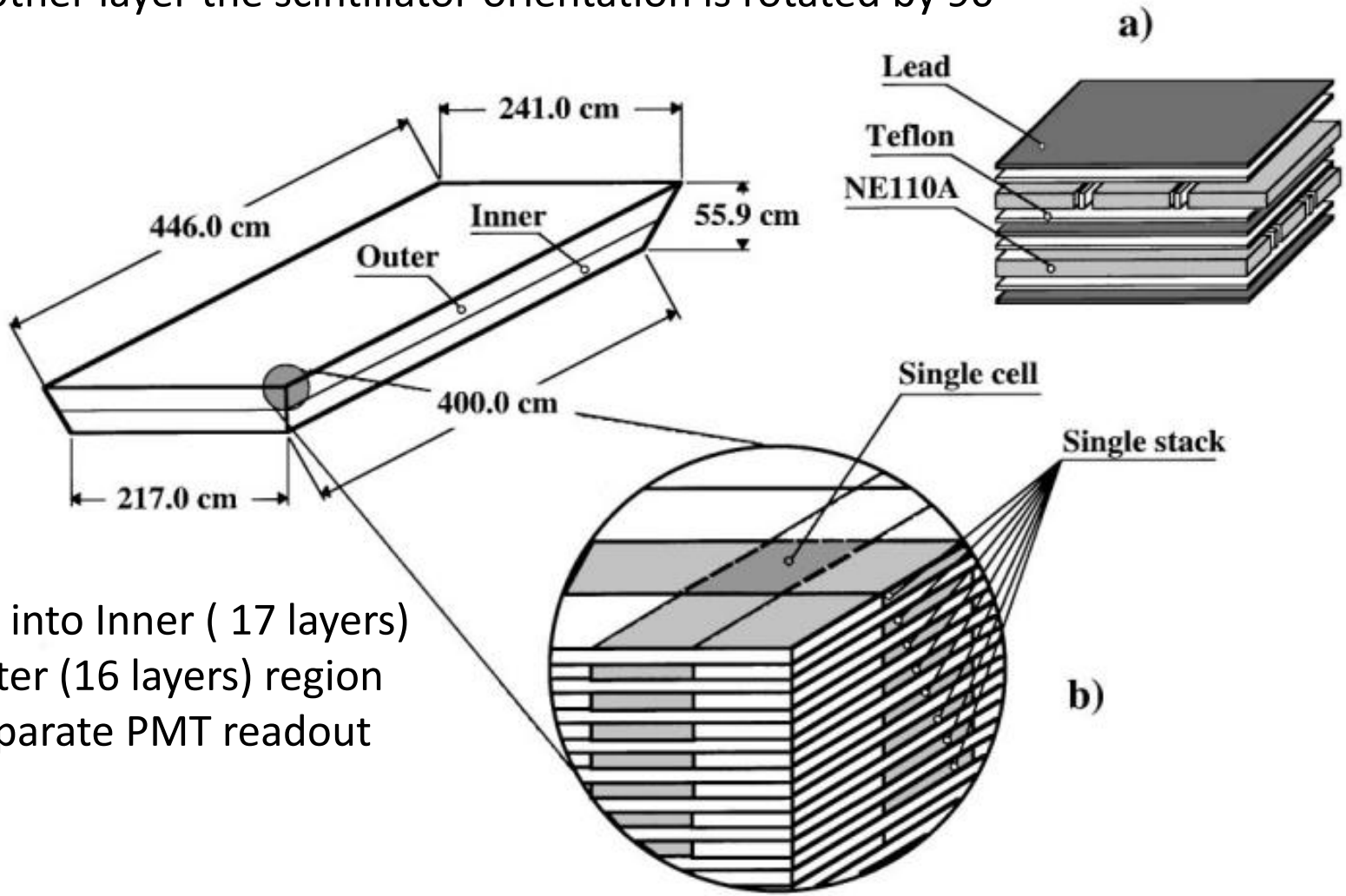
- Placed in CLAS to cover 45-75 degrees
- Two detectors. Each cover 4m x 2.4m area. Covers two sectors in CLAS.
- Lead/Scintillator sandwich type calorimeter
- References

Nucl.Instrum.Meth.A537:562-570,2005 arXiv:nucl-ex/0403041v1 19 Mar 2004

Nuclear Instruments and Methods in Physics Research A 447 (2000) 424–431

LAC details

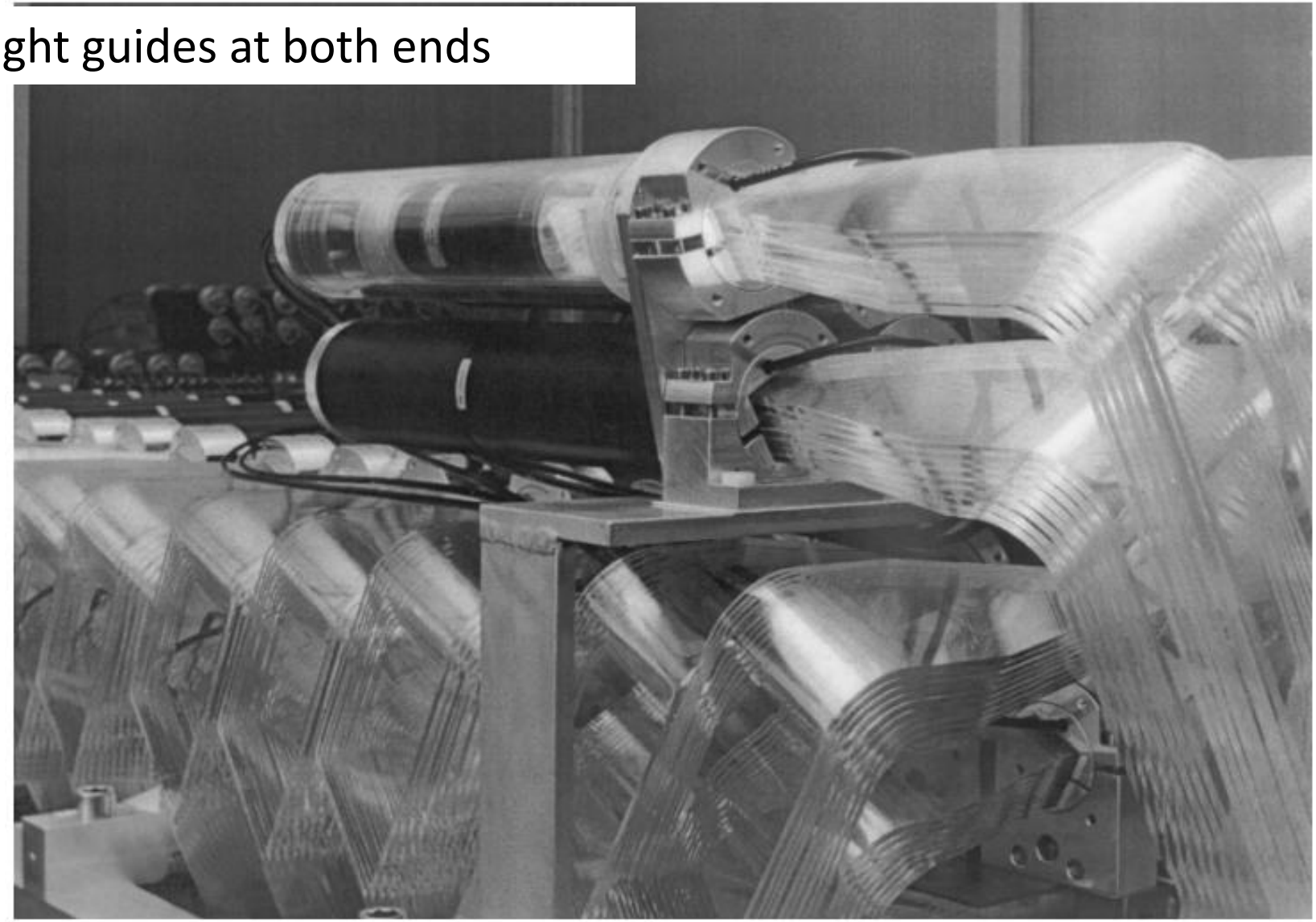
- Each detector has 33 layers of material. 12.9 Radiation lengths
- 0.20 cm lead , 0.02 cm Teflon , 1.5 cm thick scintillator with 10cm width
- every other layer the scintillator orientation is rotated by 90^{o}



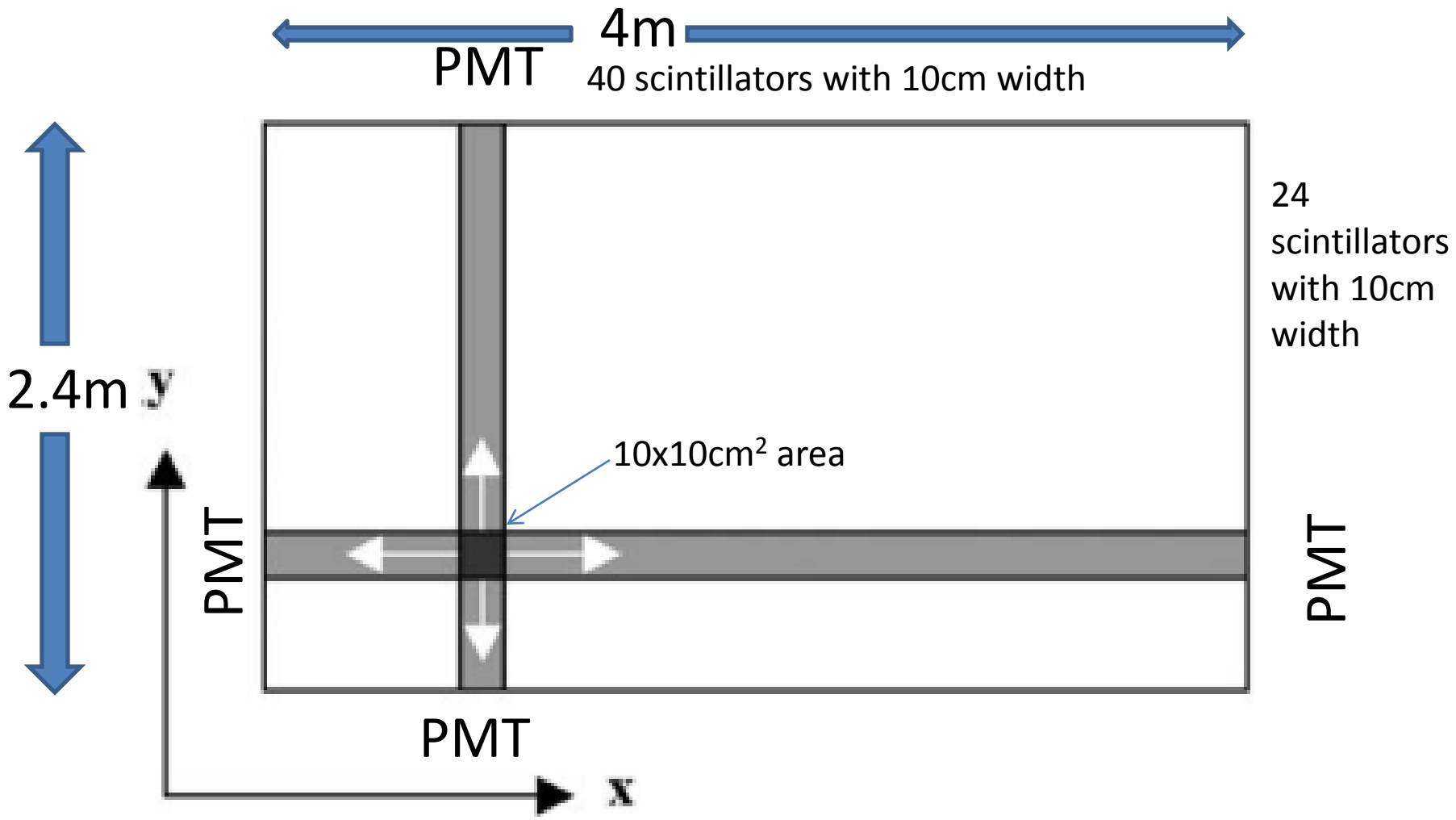
Divided into Inner (17 layers) and Outer (16 layers) region with separate PMT readout

LAC light guides

Light guides at both ends



CLAS Calorimeter



Comparison and Conclusion

	CLAS LAC	BigCal
Energy Resolution at 1 GeV	7.5%	16%
Position Resolution	2.8 cm	0.8cm
Trigger Area	0.64 m^2	0.025 m^2

• Using CLAS LAC is not possible since the trigger area is 25x larger than for BigCal. GEp5 cannot afford increase in the trigger rate.