# Updates

Igal Jaeglé

Thomas Jefferson National Accelerator Facility

**for the GlueX Collaboration**

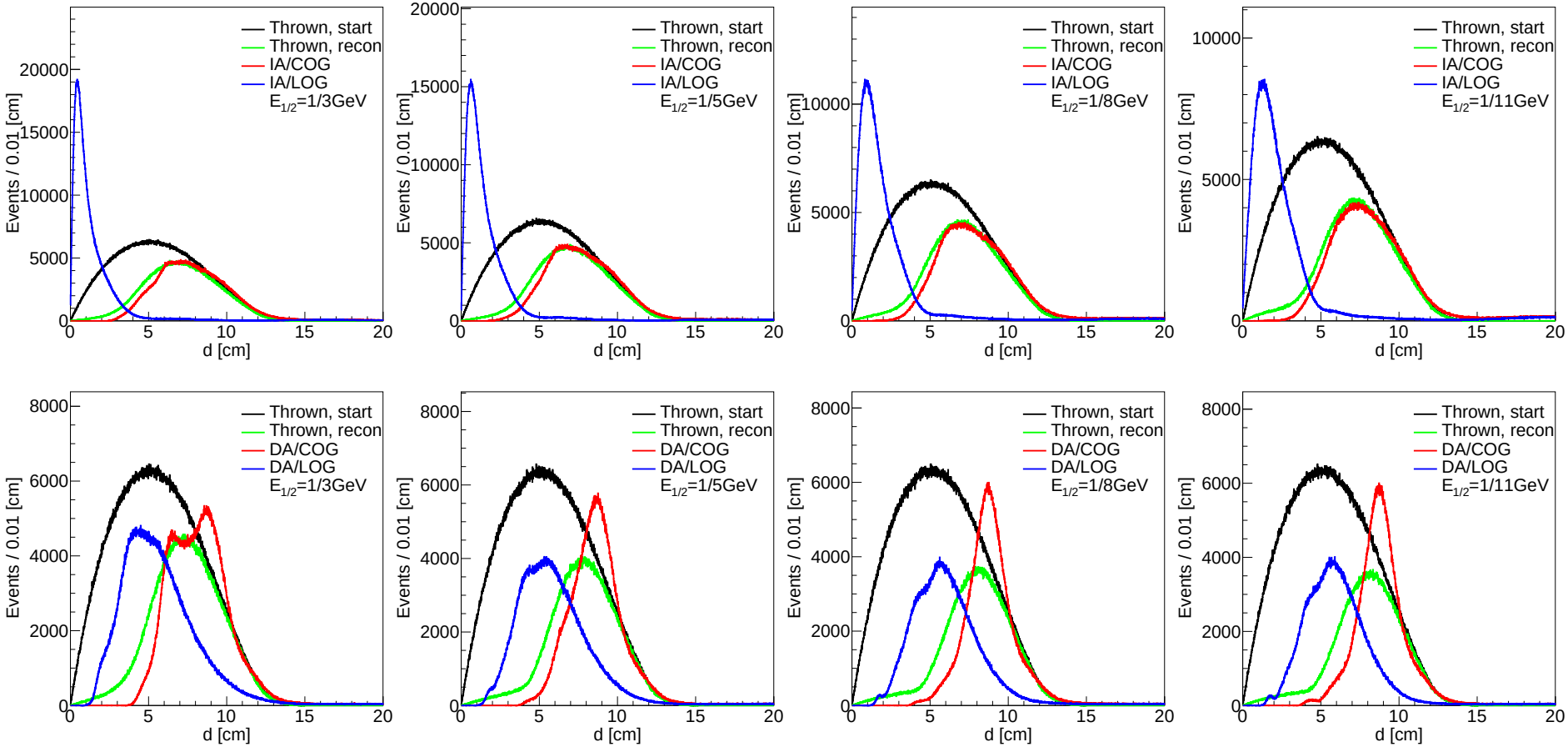
August 4, 2022

# Table of contents

# FCAL1

GlueX geometry with default parameters for DA and IA
Two photons thrown simultaneously of

- 1 GeV and
- X GeV with X = 3, 5, 8, and 11 GeV

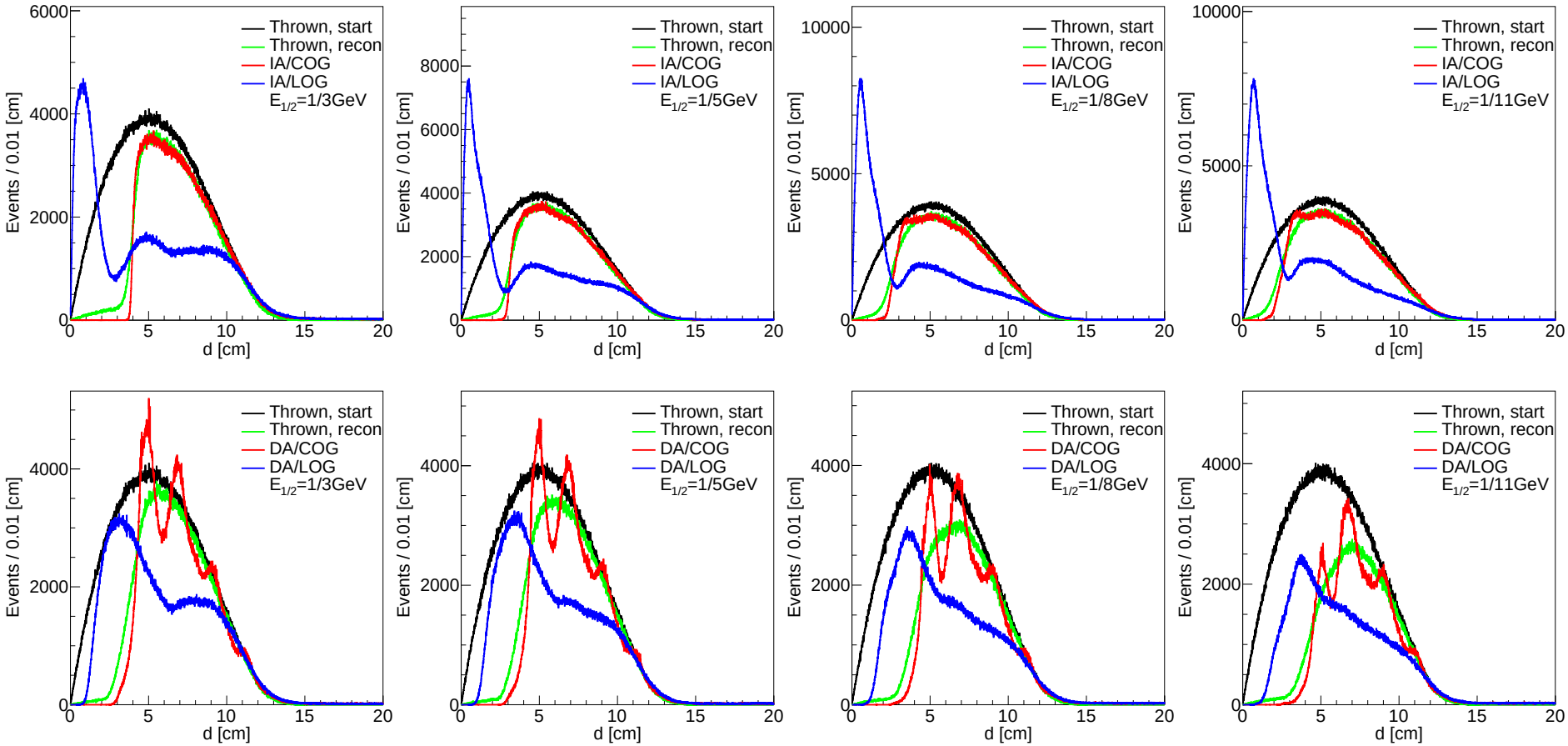



- Black and green curves: true distance for all photons thrown and true distance when only two photon clusters are reconstructed
- Blue and red curves: reconstructed distance for LOG and COG

# FCAL2

JEF geometry with default parameters for DA and IA
Two photons thrown simultaneously of

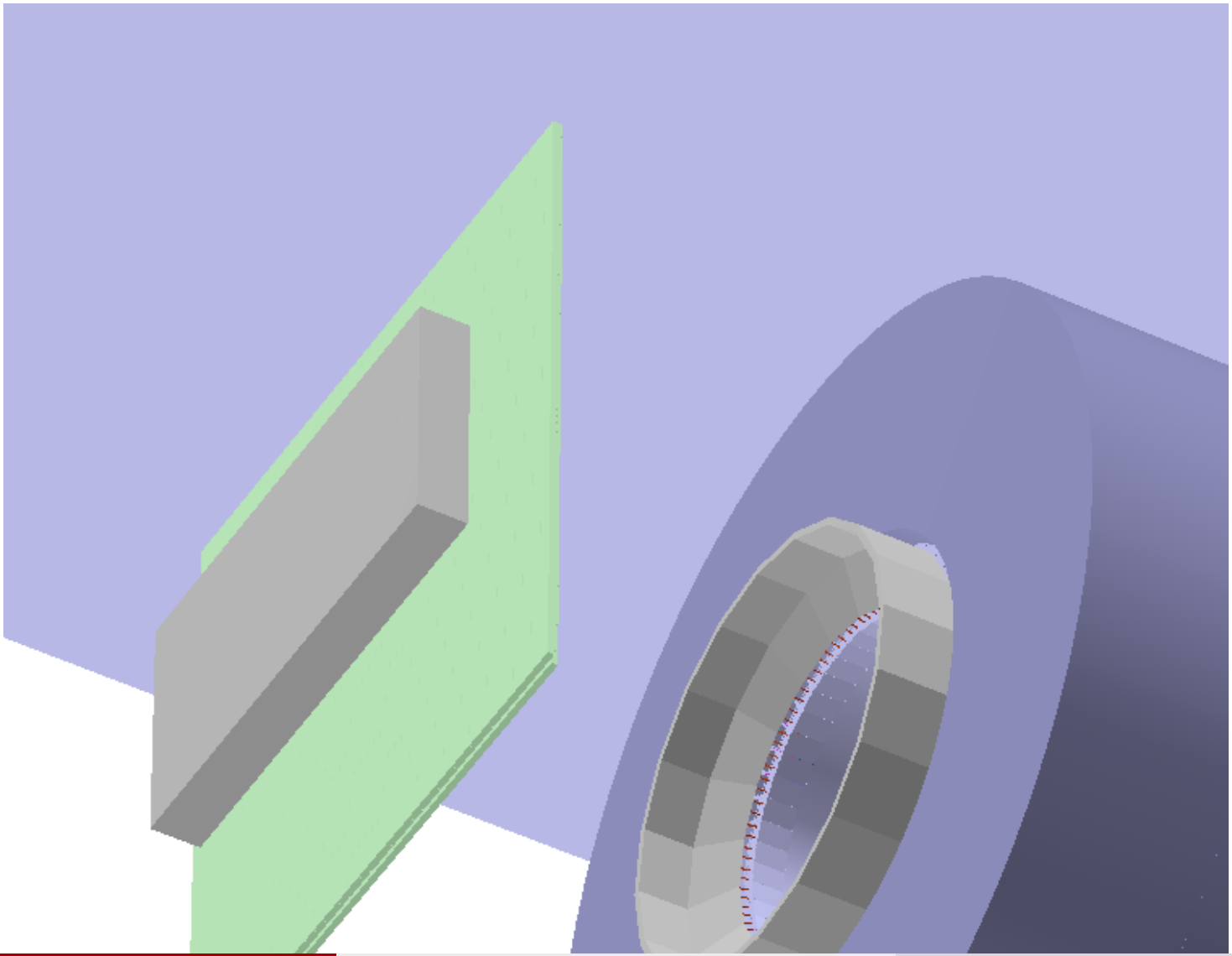
- 1 GeV and
- X GeV with X = 3, 5, 8, and 11 GeV




- Largest is the energy difference, the lowest is the separation distance "threshold"
- Energy separation is not working, clearly visible with LOG

# Modified CCAL replacing FCAL2

Remove FCAL2 and put instead a larger CCAL corresponding to 96 x 96 $PbWO_2$ matrix (mc_JEF variation, run 990001)



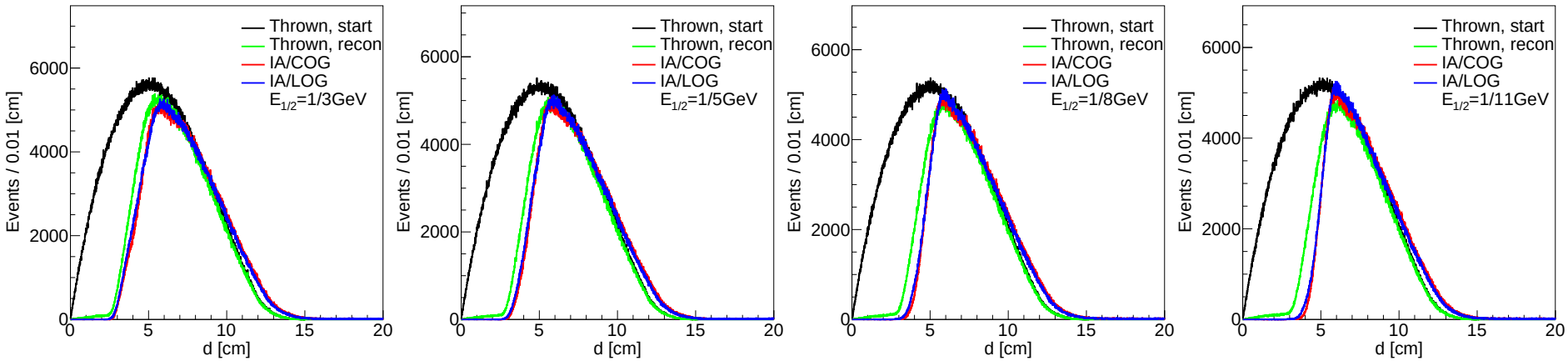
# Drew C++ code or PrimEx-eta CCAL IA

Slightly modified to reconstruct a $PbWO_2$ matrix of X dimension

- C++ conversion of Ilya Fortran code
- No parameters changed

Two photons thrown simultaneously of

- 1 GeV and
- X GeV with X = 3, 5, 8, and 11 GeV




- Same event generators used for all 3 three geometries
- No apparent change of the distance separation threshold (efficiency appears independent of the energy difference)
- Energy separation is working well, LOG and COG give comparable results