V0 Performance

Centrality
Event plane

arXiv:1306.3130v1 [nucl-ex] 13 Jun 2013

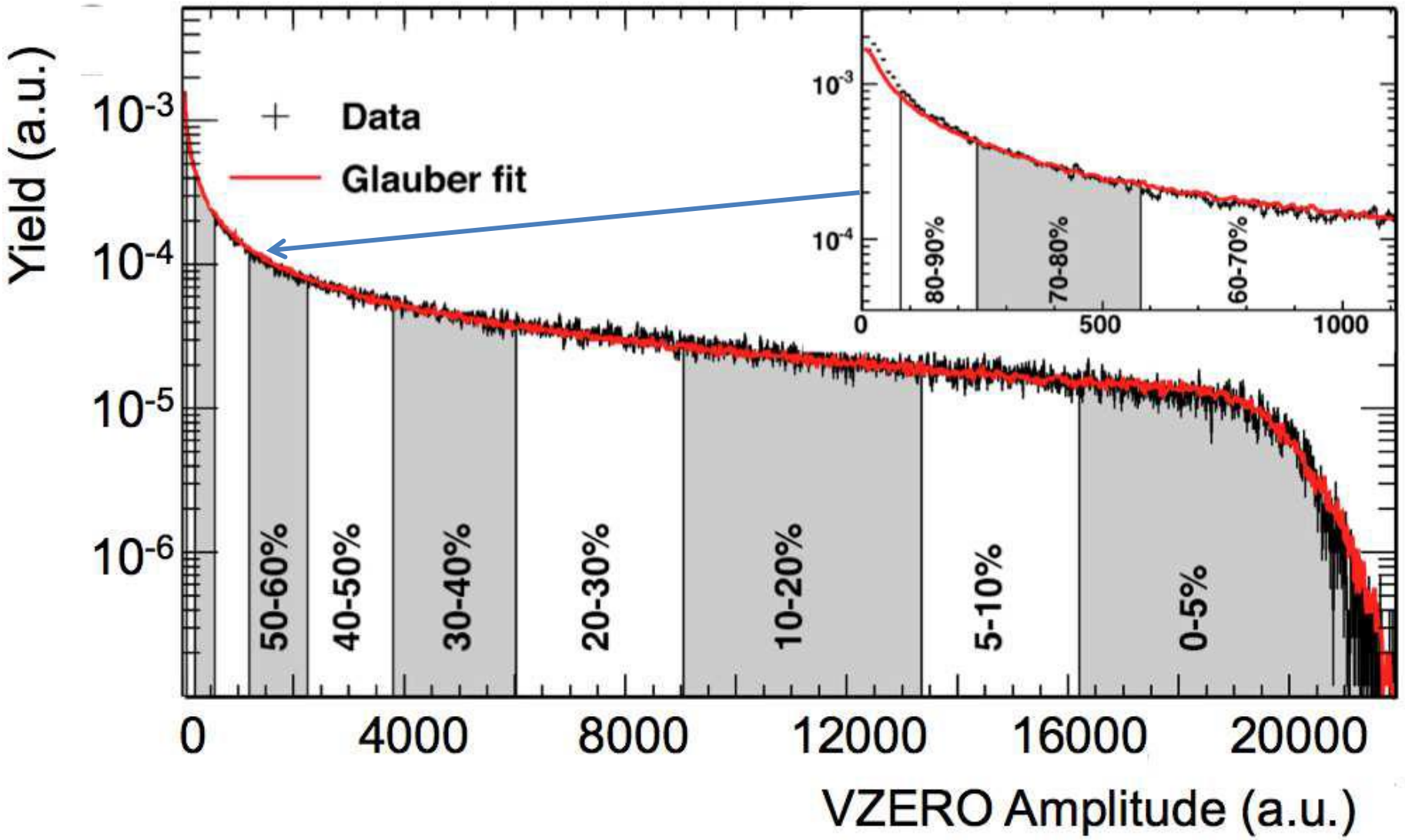
Time & Charge

Prototype during LS1

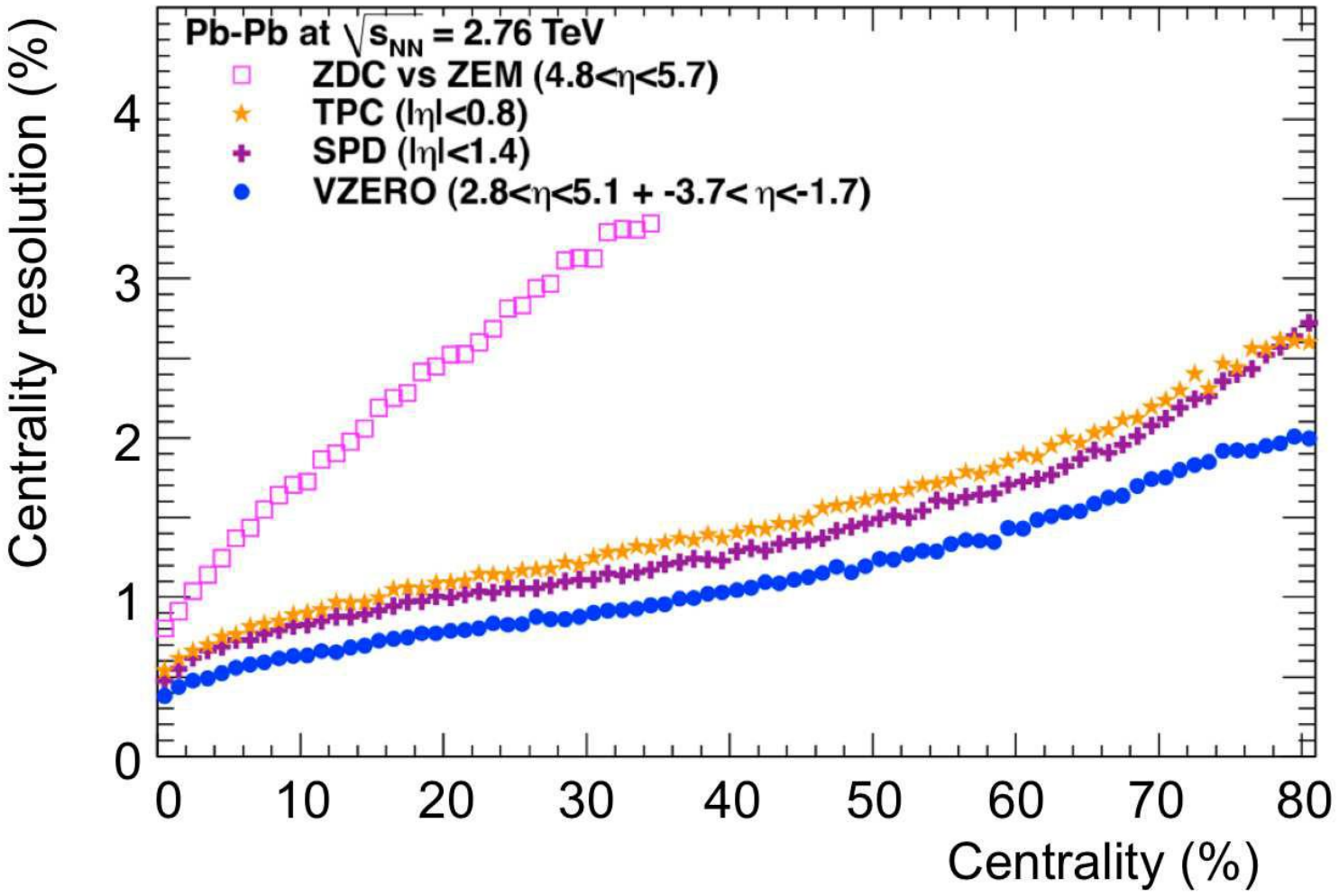
V0 performance

Distribution of the sum of amplitudes in the two VZERO arrays in Pb–Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV .

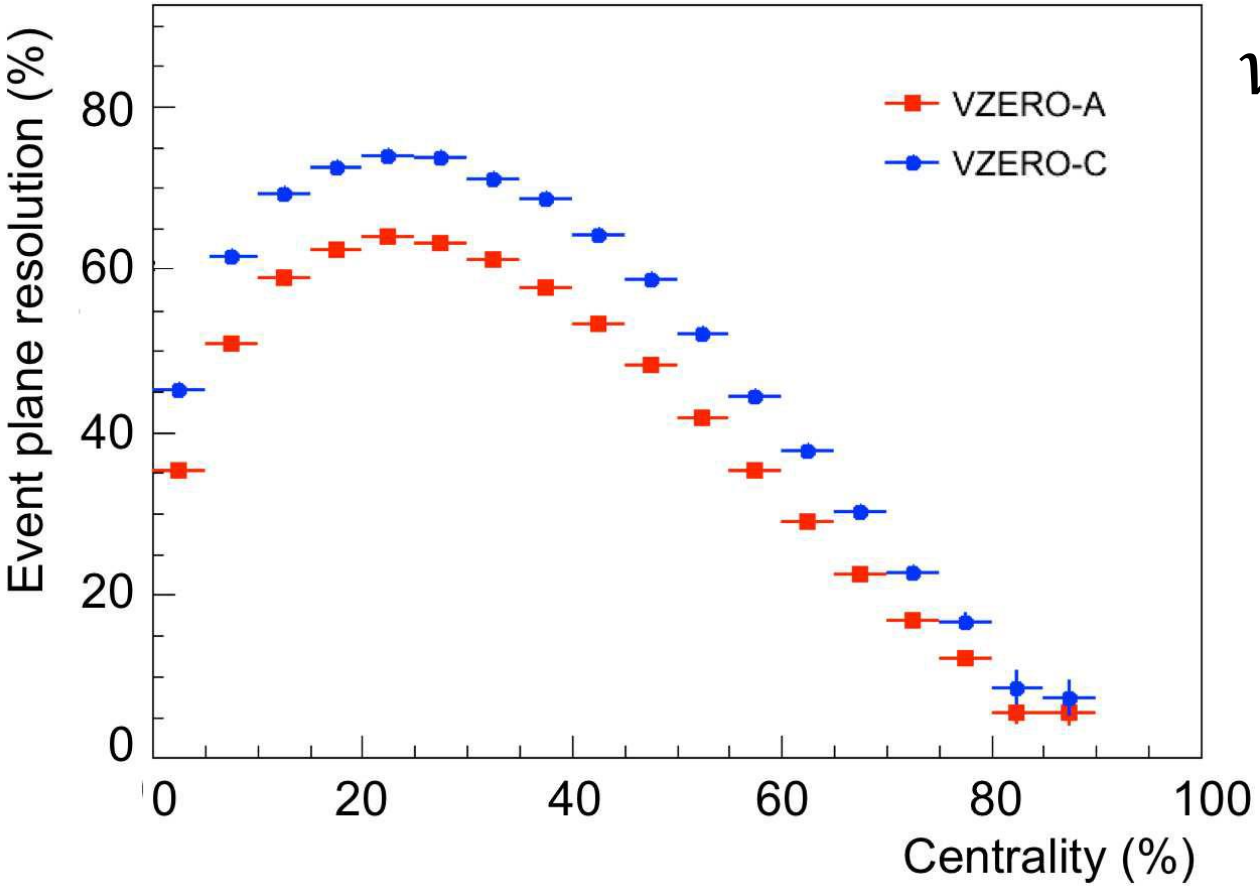
Glauber model.



The ALICE Collaboration, Centrality determination of Pb–Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV with ALICE, CERN-PH-EP-2012-368, [nucl-ex/1301.4361].



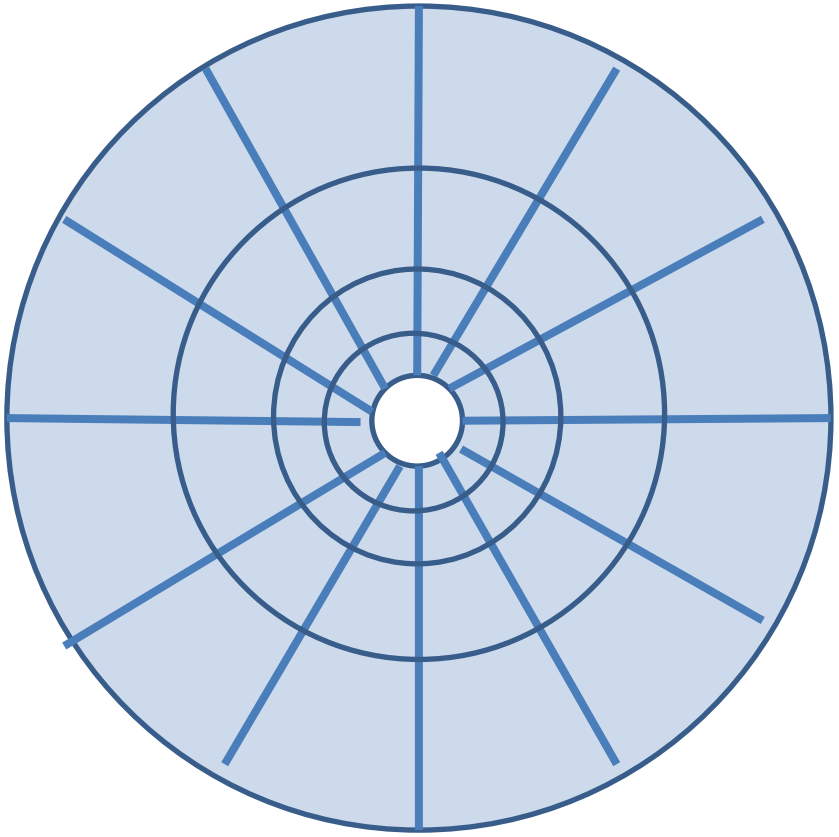
Second harmonic event plane resolution



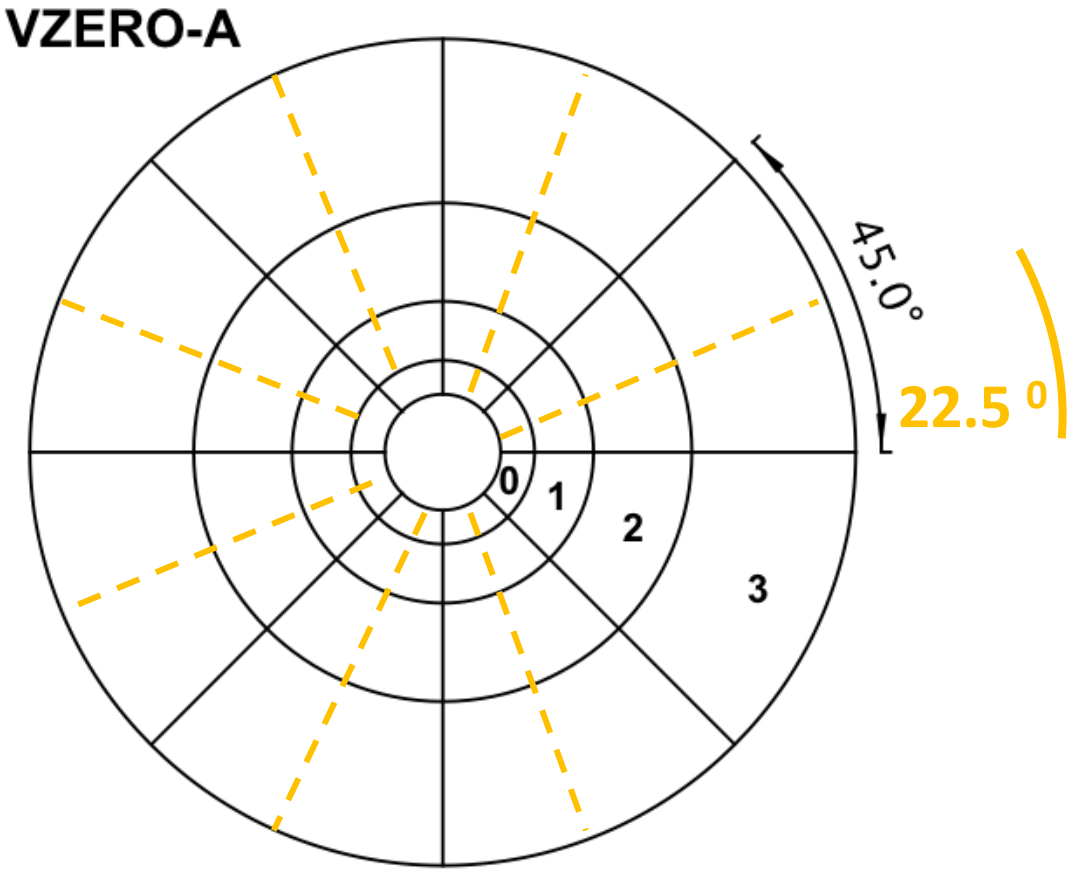
$$v_n = {v_{n,obs}}/{\mathcal{R}\,\Psi_{RP}}$$

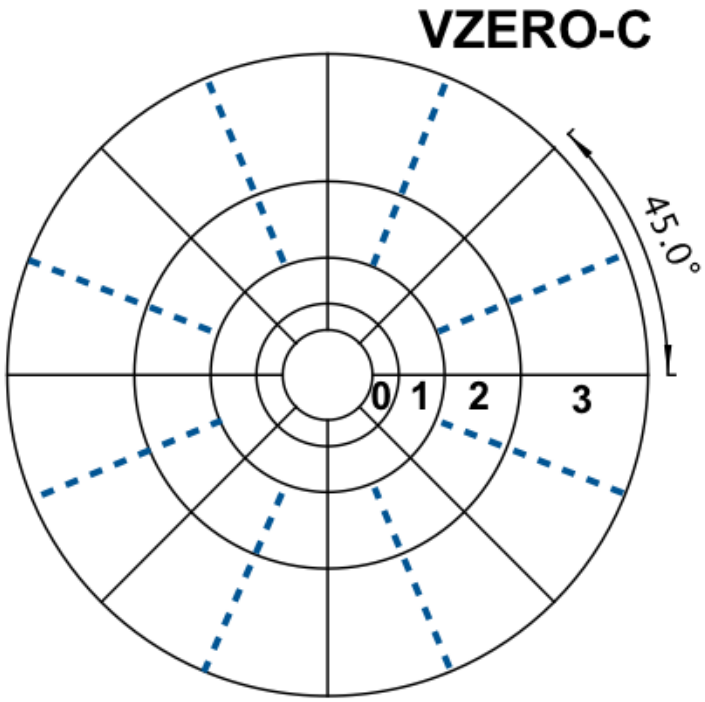
A. M. Poskanzer and S.A. Voloshin, Methods for analyzing anisotropic flow in relativistic nuclear collisions, Phys. Rev. C 58 (1998) 1671.

increase granularity



increase granularity





Simulation studies

Mario Rodríguez
Eleazar Cuautle

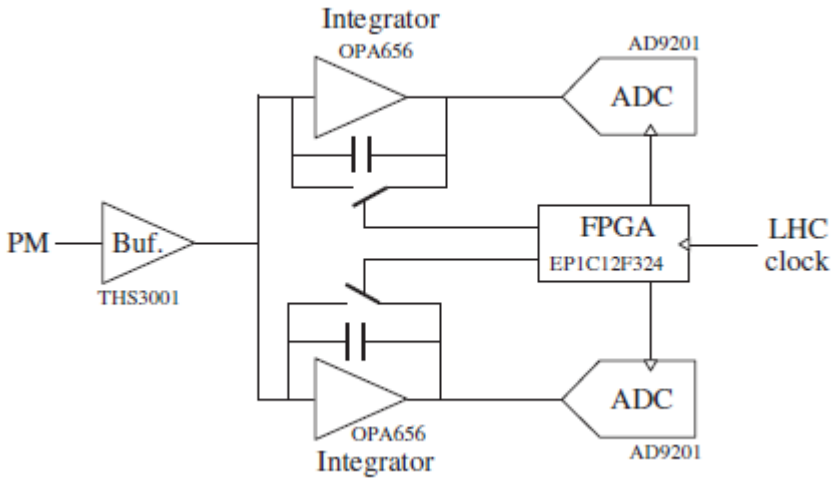
10 of september to reproduce the event plane resolution with the present array and see how it changes with a different granularity.

… the analysis seems to be quite involved … it may take longer

V0 measures time and charge

The multiplicity of MIPs is obtained in two different ways:

- Anode charge digitization → charge integrator
- Pulse length measurement → proportional to the charge of the pulse



dual high speed integrator

Centrality trigger on line and DAQ

The V0 electronis measures time arrival of particles (V0A V0C) with a 100 ps resolution HPTDC

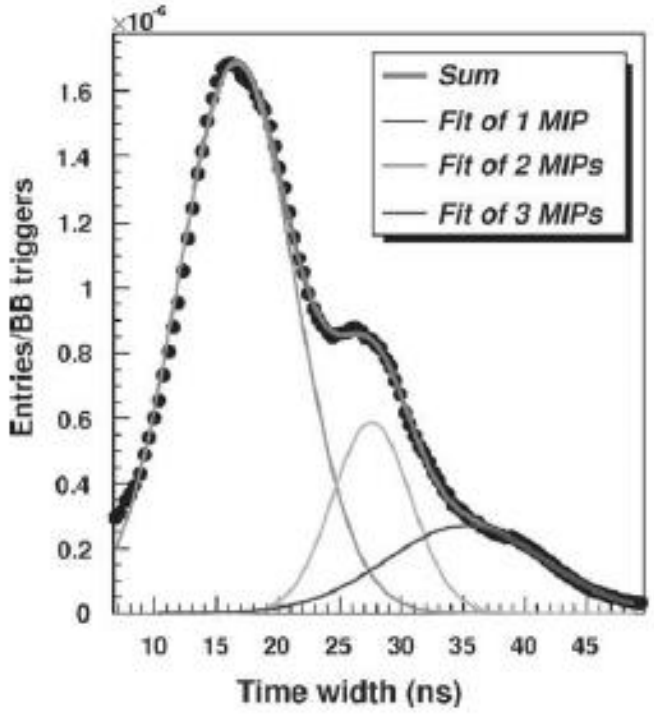
A charge measurement → uses pulse width with 400 ps resolution (HPTDC)

Sent to DAQ for offline analysis

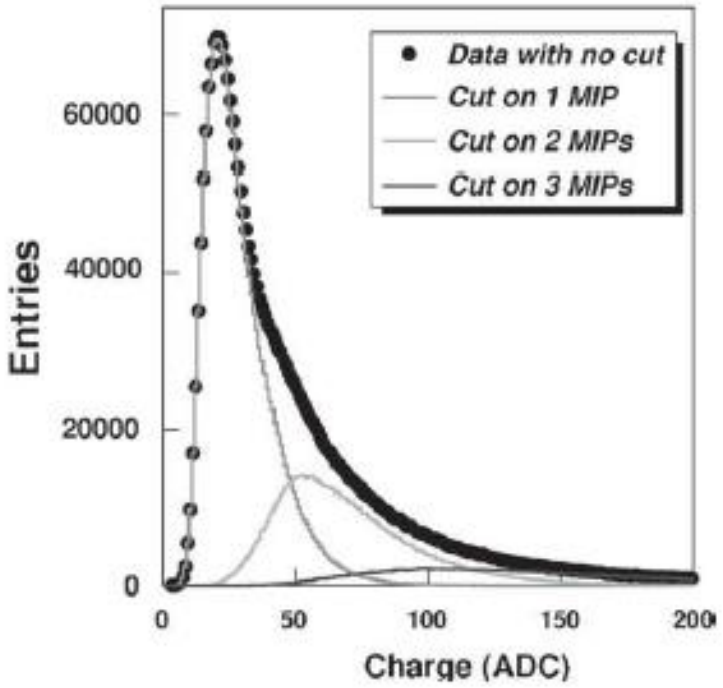
High Precision Time to Digital Converter

in the V0 electronics

PMT widths provided by the HPTDC



Charges provided by the integrator



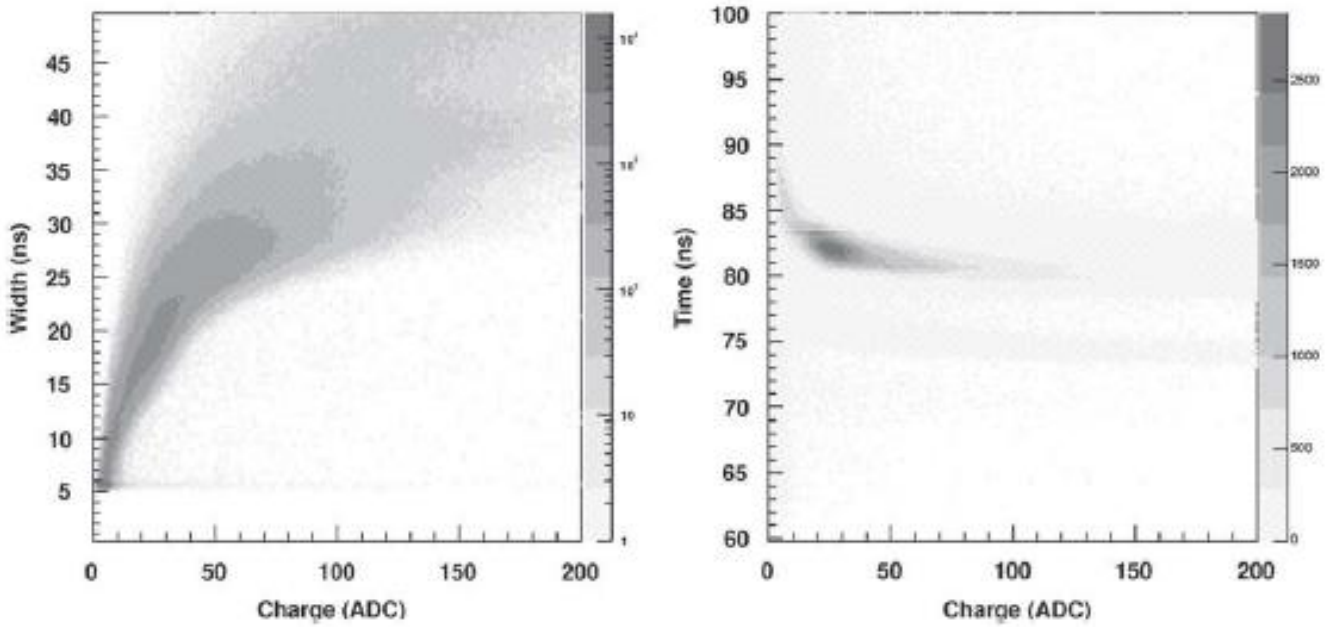
V0A

NIMA626(2011)90

Charge that corresponds to a MIP
CALIBRATION OF INDIVIDUAL CHANNELS

Correlation between the integrated charge of the PMT and the signal width

Correlation betwee the integrated Charge and the leading time

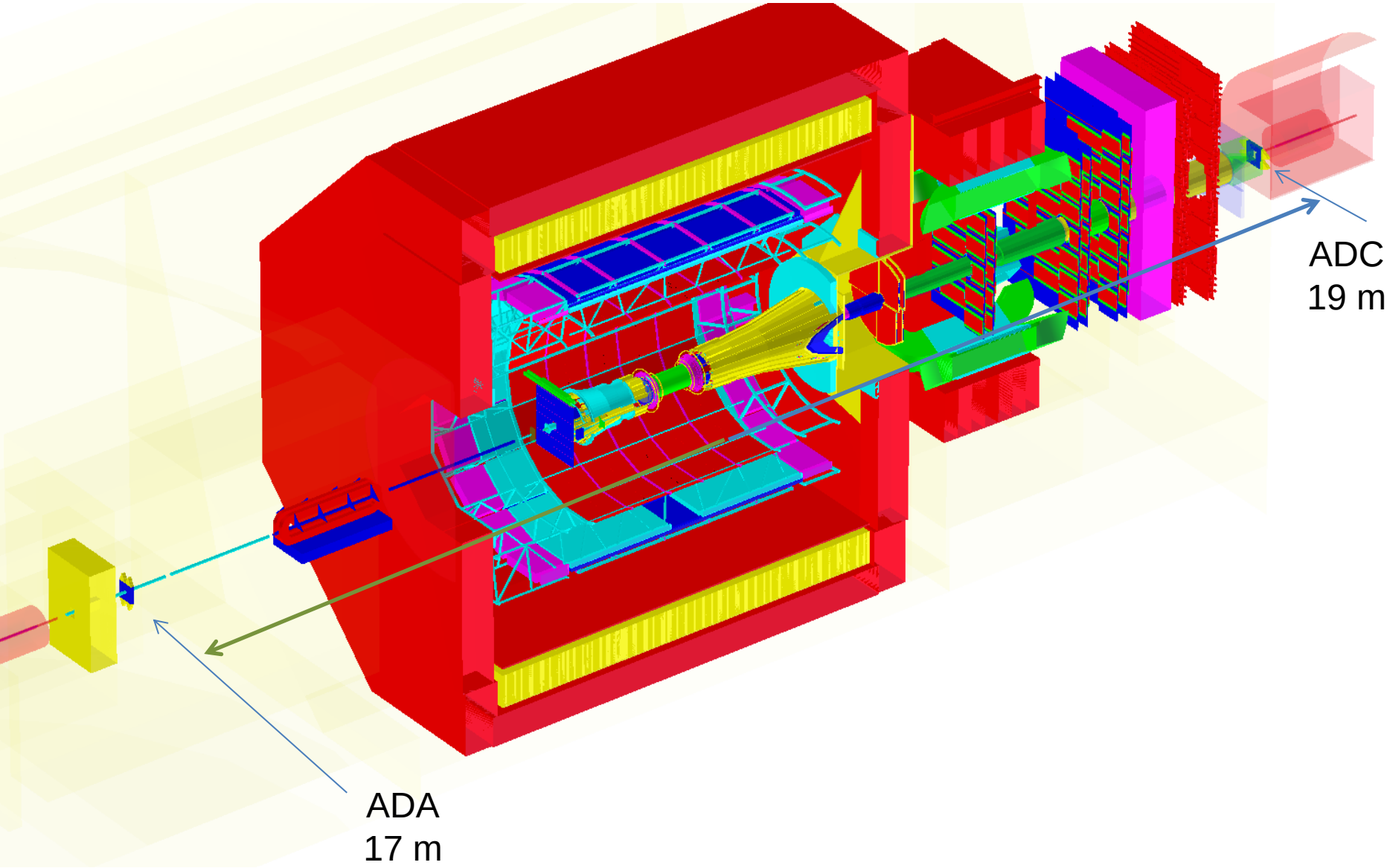


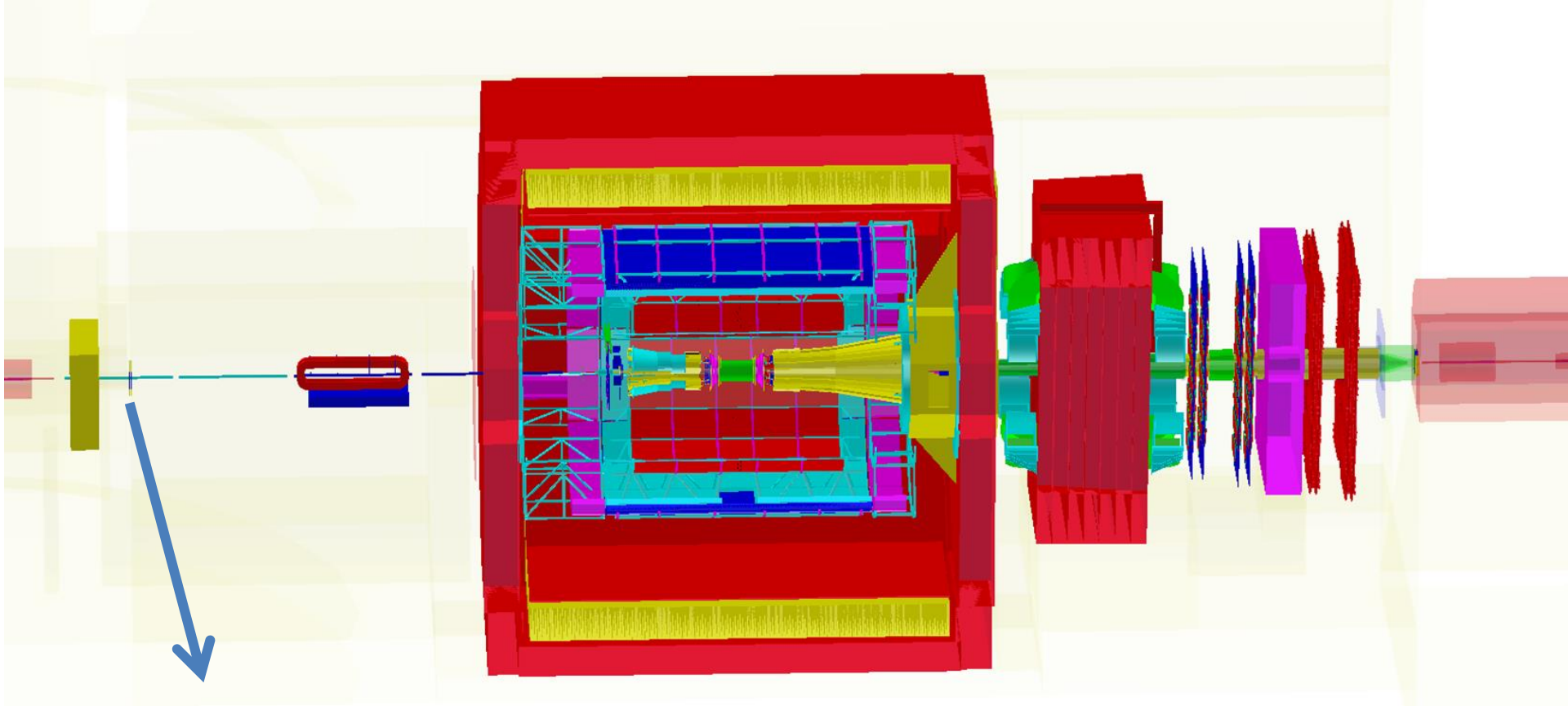
NIMA626(2011)90

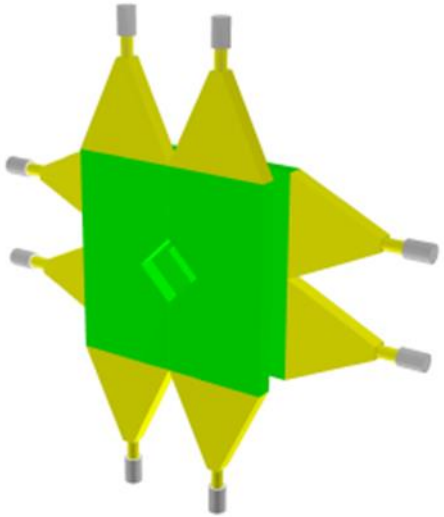
V0C

Prototype during LS1

AD detectors: Beam Diagnostic and Diffractive Physics







Readout with T0 will give us the oportunity to test the system.