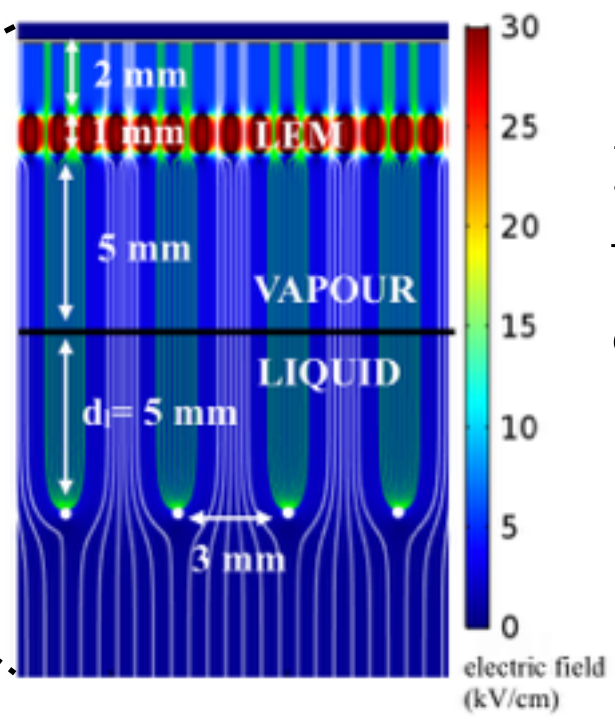
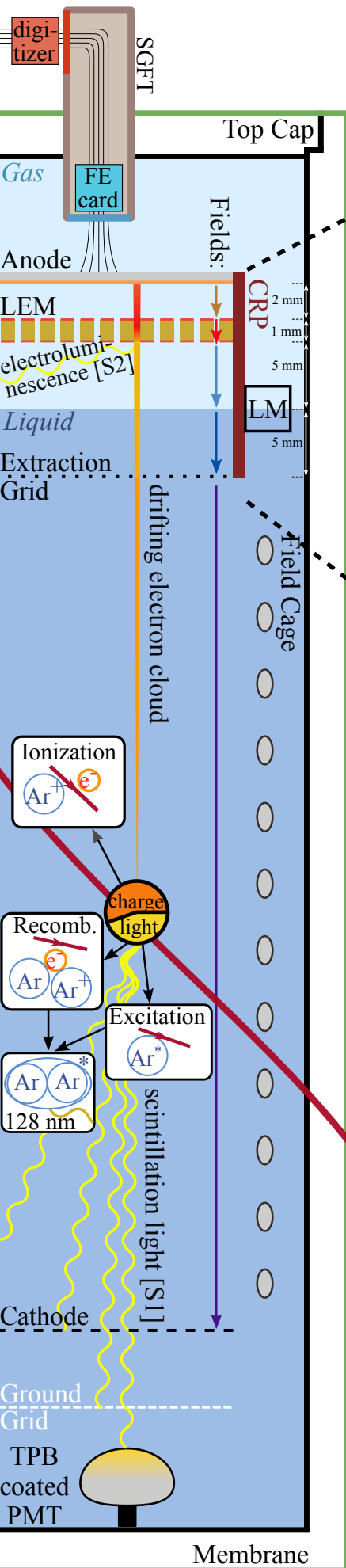


DUAL PHASE LIQUID ARGON TPC



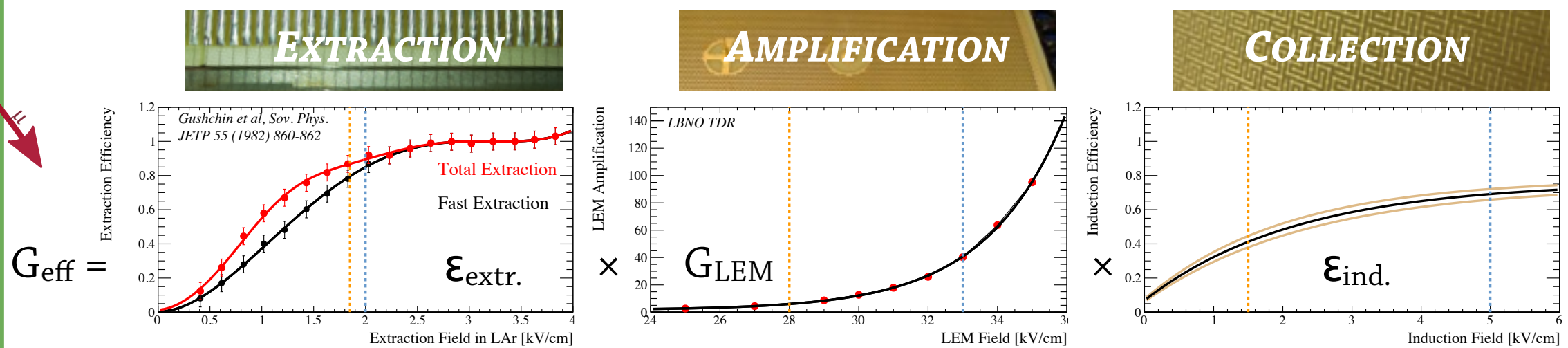
Dual phase LArTPC principle:

Electrons *drift* towards the anode, *extracted* to the vapor phase, *amplified* in the LEM and *induced* to a collection plane.

Compared to single phase design:

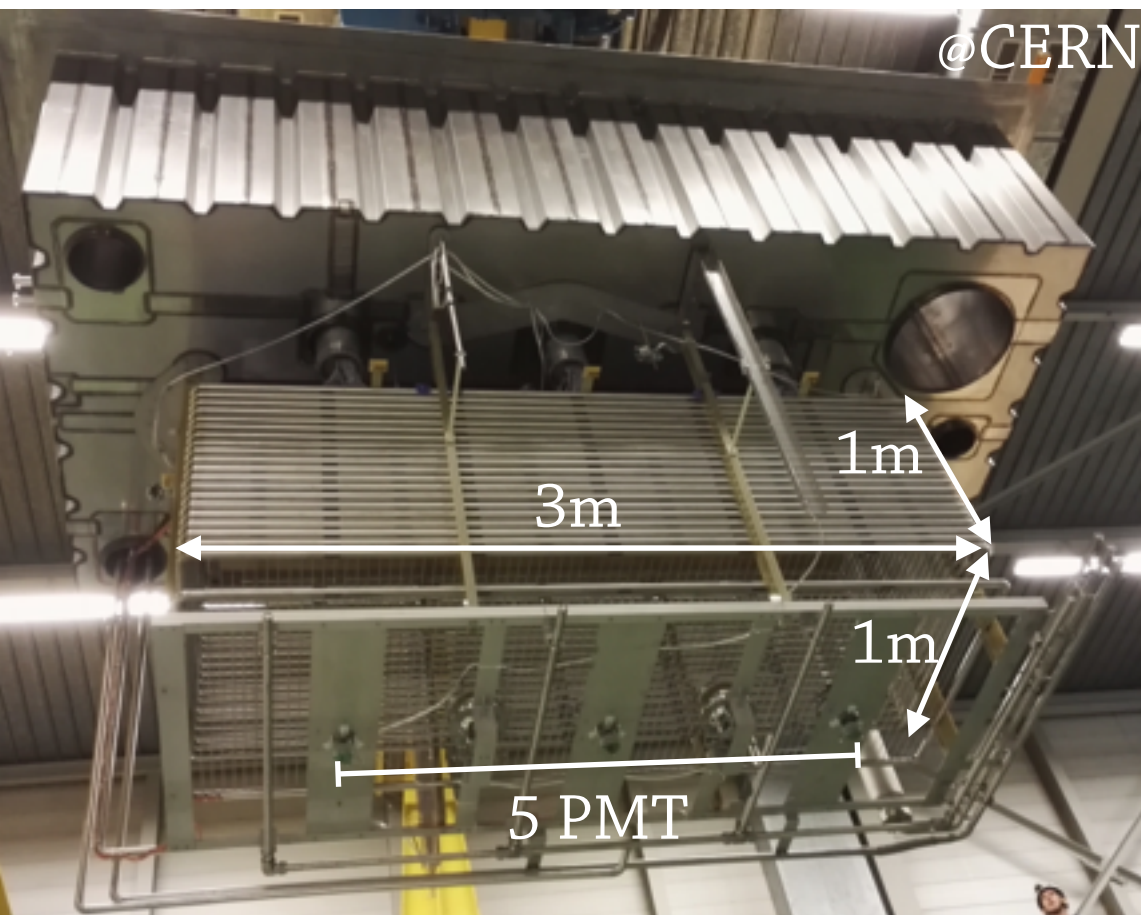
- ⊕ Accessible electronics, better resolution, larger S/N, ...
- ⊖ Stability of LAr level, Operation of a large area of amplification & readout, ...

The effective gain depends on:

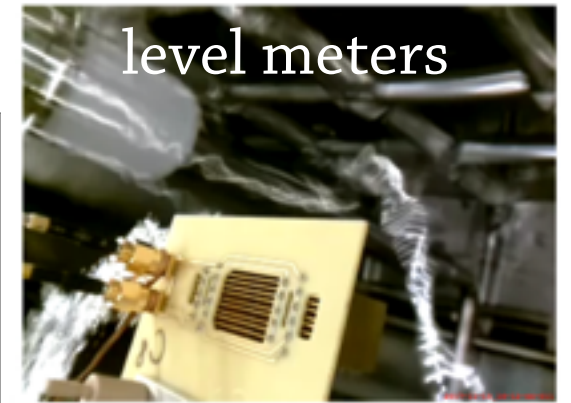
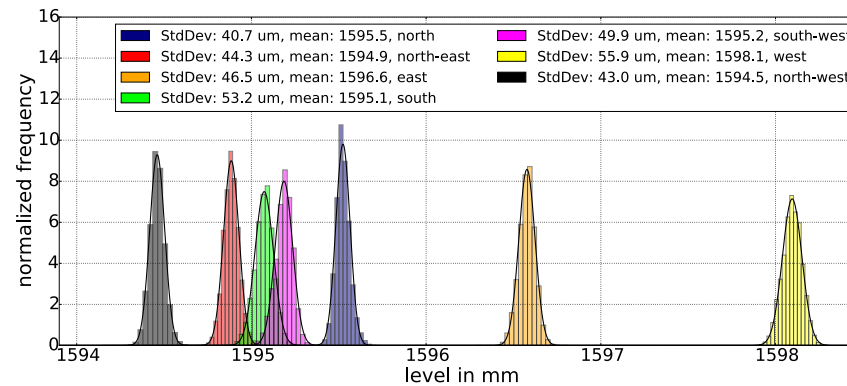


Nominal effective gain ~ 20

A 3x1x1 m³ DUAL PHASE TPC DEMONSTRATOR



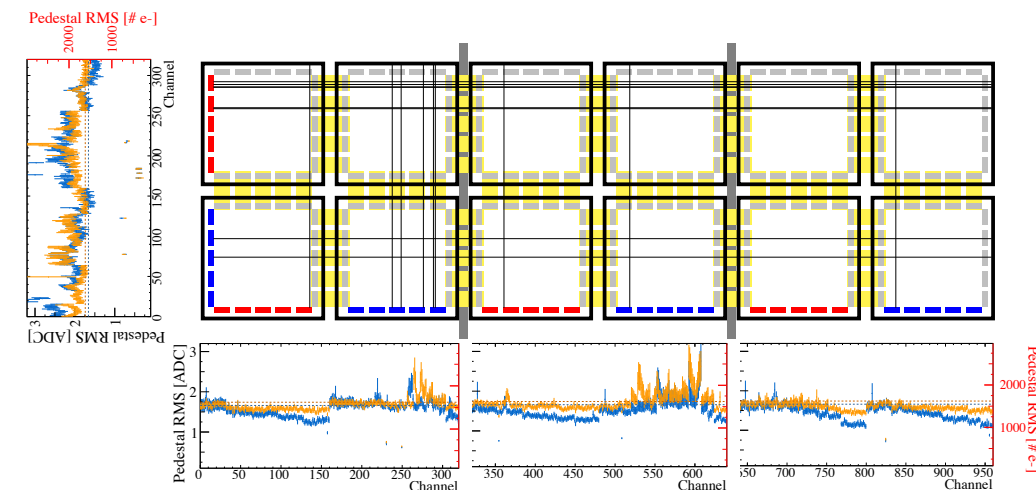
Stable LAr level



► 8 level meters installed around the CRP

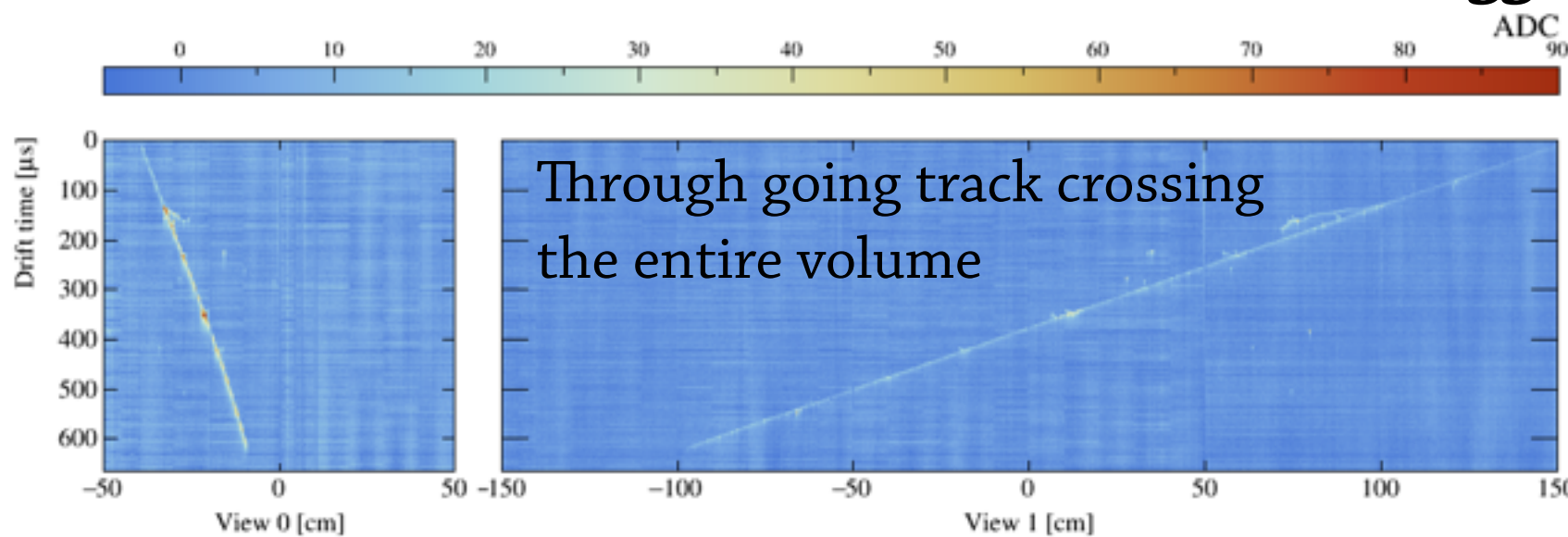
Stable noise

► Noise RMS at $\sim 1500 e^-$ at warm and cold



Data collected

► Cosmic data taken in summer 2017: **More than 500 k triggers collected**



Corresponding waveforms:

