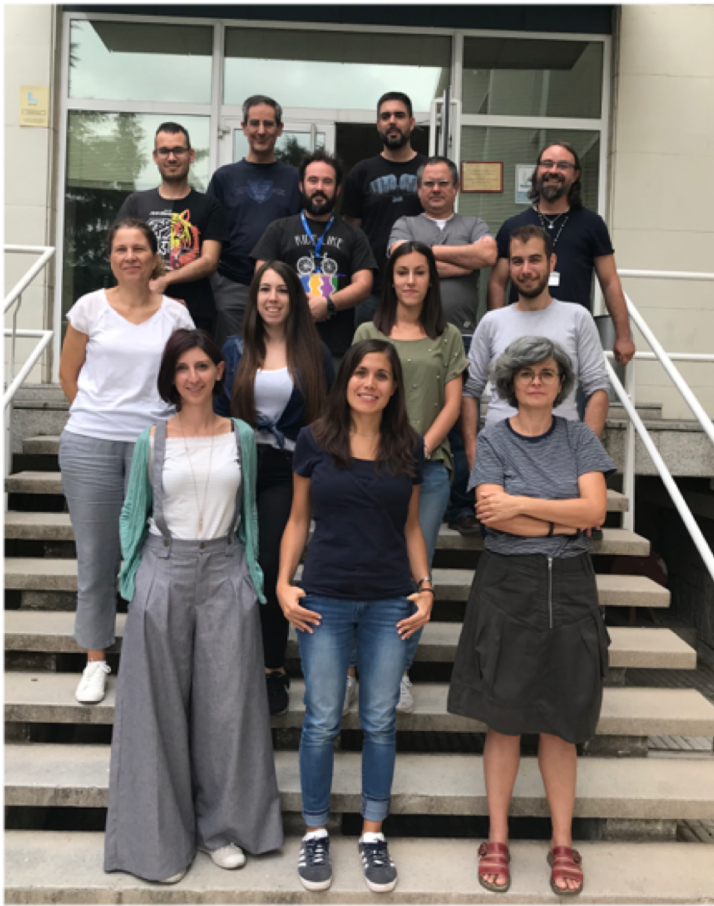
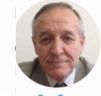


CIEMAT neutrino group



Researchers

Inés Gil Botella



Carmen Palomares

Marcos Cerrada

Scientific fellows

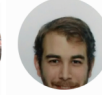


+1

Clara Cuesta

PhD students

Chiara Lastoria



+1

José Soto

Ana Gallego

Master students

María Artero

Marcos Rodríguez

Engineers

Enrique Calvo

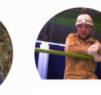


Antonio Verdugo

Sergio Jiménez

Technicians

Iván Martín



Juan José Martínez

Fco. Javier Yáñez

Light analysis on-going

- **Detector performance:**
 - PMT gain calibration and stability
 - PEN vs. TPB efficiency study
 - Tau-slow monitoring
 - System limitations (noise)
- **Light propagation** in LAr in different drift field conditions, and comparing to simulations (y -drift geometry)
- **Single photo-electron rate** under different conditions (fields, PMT coincidence) to understand low-energy background.
- **Muon-detection** efficiency.
- **T_0 capability.**
- **S2 study:** e- drift information, electroluminescence production.
- **Light and charge** combined analysis: muon tagging and calorimetry improvement.

Ana Gallego
José Soto
Clara Cuesta

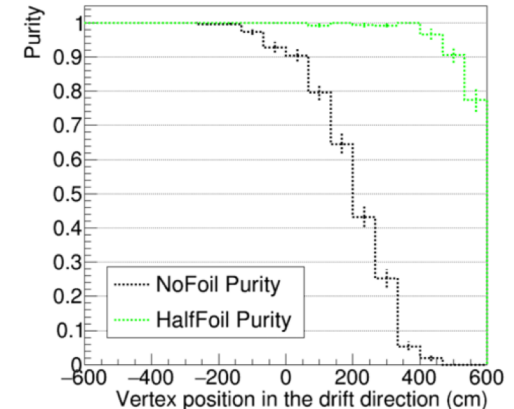
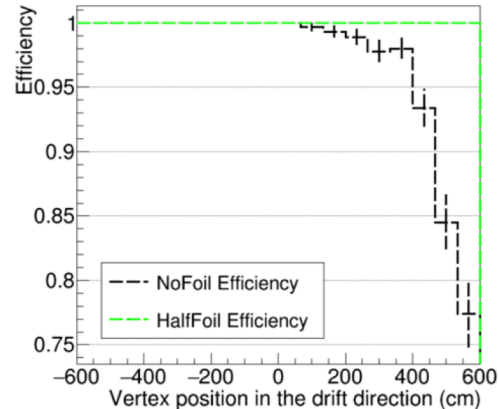
DUNE-FD design validation with ProtoDUNE

Work presented

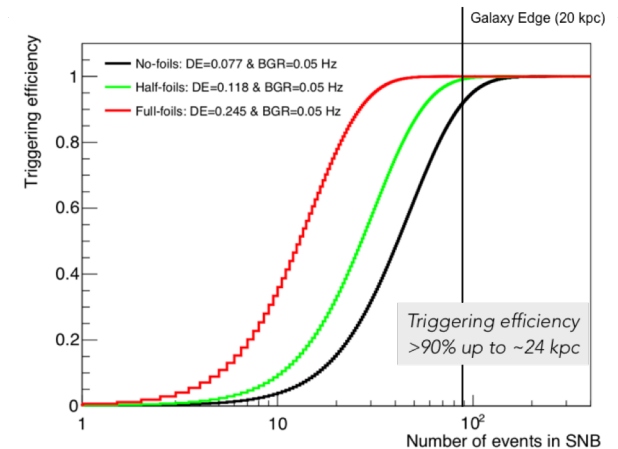
- ["Latest PDS results from protoDUNE-DP data"](#) J. Soto, DUNE collaboration meeting, 28-01-2020
- ["Light calibration system performance in protoDUNE-DP"](#) A. Gallego, DUNE collaboration meeting, 28-01-2020
- ["Photon Detector System"](#) I. Gil Botella, DUNE collaboration meeting, 27-01-2020
- ["Status of ProtoDUNE-DP light data analysis"](#) J. Soto, DPPD consortium, 17-12-19
- ["ProtoDUNE-DP light data analysis"](#) A. Gallego, DPPD consortium, 26-11-19
- ["ProtoDUNE-DP light data analysis"](#) J. Soto, DPPD consortium, 12-11-19
- ["ProtoDUNE-DP light data analysis"](#) A. Gallego, DPPD consortium, 12-11-19
- ["First light data analysis from protoDUNE-DP"](#) A. Gallego, DUNE collaboration meeting, 25-09-19
- ["Status of DPPD system in protoDUNE-DP and light data analysis"](#) J. Soto and A. Gallego, DPPD consortium, 10-09-19
- ["Status of DPPD system in protoDUNE-DP and first light data"](#) C. Cuesta, DPPD consortium, 30-07-2019

DUNE-FD studies

- **Proton decay:** Photon detection system provides t_0 (vertex position in the drift direction). Studies by **José Soto** for different Dual-Phase FD configurations (w/ & w/o reflector foils)



- **Supernova:** Triggering efficiency studies by **Ana Gallego** for different Dual-Phase Far Detector configurations. **Inés Gil Botella** is convener of the Supernova and Low Energy Neutrino Physics Working Group



Contributions to TDR and Supernova paper