### Summary of the 2025 INDRA-FAZIA campaign

Diego Gruyer for the D5 team



# Preparation

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#### Detector test bench

Small vaccuum chamber (~10<sup>-3</sup> mbar) with MESYTEC pre-amps, HV, ADC and data acquisition ~600 detectors tested with alpha source Detector boundings/captons repaired at LPC/GANIL

→ Ilham, Nicolas, Giovanni, Emmanuel...

### Electronics test bench

All electronic cards tested without detectors Baseline and high voltage re-calibrated when needed

→ Simone, Diego, Ilham, Andrea...

### Block mounting and testing

Detection heads mounted and attached to electronics Full blocks tested with hexadecaled/alphas/cosmics 12 blocks finally mounted in the INDRA chamber

 $\rightarrow$  Huge effort started in December 2024





## Beam times

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### Many beams

<sup>129</sup>Xe at 50 MeV/nuc. (block testing)
<sup>12</sup>C at 13.75MeV/nuc. (calibration, failed)
<sup>12</sup>C at 8.81MeV/nuc. (calibration and e881)
<sup>60</sup>Zn at 50 MeV/nuc. (e884)
<sup>12</sup>C at 13.75MeV/nuc. (calibration)
<sup>129</sup>Xe at 50 MeV/nuc. (calibration)

### E881 experiment

8 BTU over 14 asked + 4.5BTU at 13.75MeV/nuc. Statistic lower than expected and detector problems → Ilham's PhD thesis and Andrea's master thesis → next talk by Ilham and Andrea

### E884 experiment

All BTU asked on target (ask Caterina for the number) Statistic higher than expected, most detectors working → Gabriela's master thesis, no PhD, postdoc GANIL 2026 → next to next talk by Gabriela and Caterina

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## Issues

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### FE damaged

Block 8 desynchronized frequently FAZIA started in static vaccuum (~10<sup>-3</sup> mbar) : 14 FE HV modules were damaged  $\rightarrow$  FE cards were shipped from Italy and substituted

### Blocks vetoing the ReBo

At some the beginning of e881, 3 FAZIA blocks started to veto the ReBo They were temporarily removed from the config It was due to tricky problems in the configuration procedure  $\rightarrow$  Two blocks recovered after solving the issue

 $\rightarrow$  Last block had also a problem with fiber transceiver (solved after e881)

### D5 room

Issues with beam monitors (solved after opening)

Issues with the main target holder (solved)

→ Update of the target holders and beam line re-alignment before next beam time

### Beam alignment

Carbon beams very difficult to align with residual 'slit scattering' (also seen with Xenon/Zinc beam) No direct measure of beam intensity : explore the possibility to add a Faraday downstream

# Acknowledgements

### Collaboration

Many fazians came for preparation and data taking Many silicon detectors repaired at LPC

### GANIL

GANIL staff did its best for the success of the campaign



### Eurolabs

Strong financial support from EURO-LABS for EU and non-EU colleagues (e881). Support for long stay of two italian master students.

 $\rightarrow$  Be sure to have one non-frensh co-spoke person for next experiments !

