CYGNO roadmap & future

Electron drift 1 atm

2015 — 201 — 2018 — 2019 — 2020 — 2021 — 2022 — ...

0.0001 m³ @ ROMA1/LNF 0.01 m³ @ LNF 0.025 m³ @ LNF @ LNF @ LNGS

Construction & test   Installation & data taking

1 m³

ORANGE
- OPT readout
- 1 cm drift
- 0 resolution

- Timepix charge readout
- 5 cm drift
- 3D printing
- negative ion studies

LEMON
- OPT readout
- 3D printing
- 20 cm drift
- PID
- tracking
- drift resolutions

LIME
- ...
- 50 cm drift
- drift scaling
- materials test
- gas

CYGNO
- background
- materials test
- gas purification
- shielding
- stability
- scalability
- reliability

10-100 m³

Negative ion drift

610 Torr

NITEC

Cathode
Field cage rings
GEMPix = triple thin GEM 3 x 3 cm² + TimePix
MARIE CURIE

0.00005 m³ @ LNF

2015 — 2016 — 2017 — 2018

MANGO
- OPT readout
- 1 cm drift
- thick GEM
- negative ion studies

0.0001 m³

THE UNIVERSITY of NEW MEXICO

100-150 Torr

2012 — 2015 — 2017

CYGNUS-RD

E. Baracchini - Directional DM searches with optical readout & the CYGNO project - IDM 2018, Brown University, Providence

21