ET @ ICCUB

ICCUB GW Meeting, 09/04/2026

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ET - the future of GW physics

ET EINSTEIN TELESCOPE

Main Features

Factor 10 better sensitivity than advanced (2G) detectors

Will be built on entirely new infrastructure

Key improvements

Wide frequency band (special attention to low frequency)

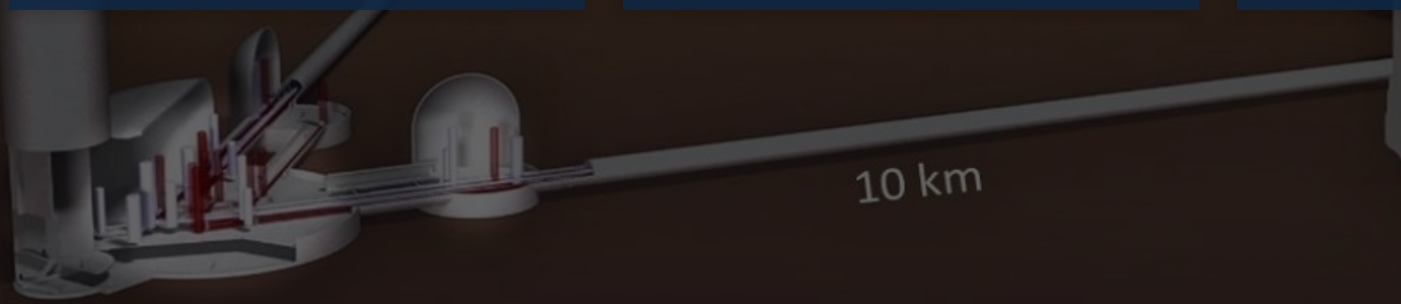
Capable of working alone

A 50-year lifetime of the infrastructure

Open Questions

Configuration (Triangular / "Double-L")

Site (Sos Enattos, Euregio Meuse-Rhine, Lusatia)



The Roadmap

Key governance milestones

ESFRI status (2021): Confirmed ET as a priority European research infrastructure — to be realized within 10 years

ET Collaboration (2022): Formalized scientific collaboration, now counting 1600+ members from 10+ countries

Board of Governmental Representatives (BGR): National governments coordinating timeline, site selection criteria, and funding commitments

ET Preparatory Phase

- Project supported by the European Commission Framework Programme Horizon Europe Coordination and Support action
- Detailed implementation plan for the ET infrastructure
- Support on the legal, governance and financial issues
- Studies related to the optimization and production of ET components by the industry

Coordinating Institute

IFAE

Institut de Física d'Altes Energies

Funded Centers

Deutsches Zentrum für Astrophysik (DZA)

Saxony, DE

~€170M annual funding at full operation, 1000+ staff planned

Building the Low Seismic Lab

Exploratory drilling to 250m already completed

ETpathfinder
Maastricht, NL

E-TEST
Liège, BE

SarGrav
Sardinia, IT

...

ET Science Targets

Astrophysics

- BH physics
- NS physics
- CCSNe
- Isolated NSs

Fundamental Physics

- Testing GR
- Dark Matter
- Dark Energy
- QCD

BBH up to $z \approx 50$

10^6 BBH/year

BNS up to $z \approx 2$

10^5 BNS/year

BNS with EM counterpart

$10–100$ BNS/year

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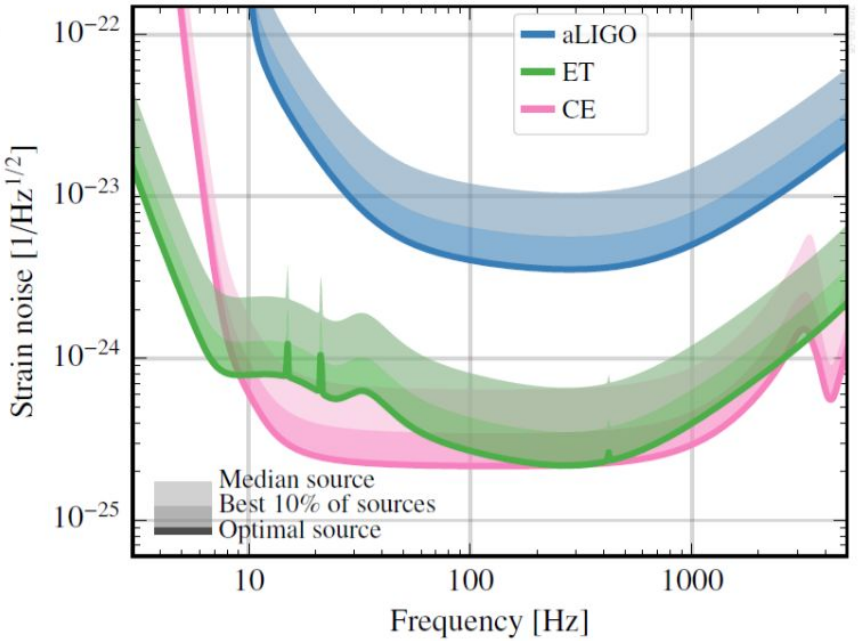
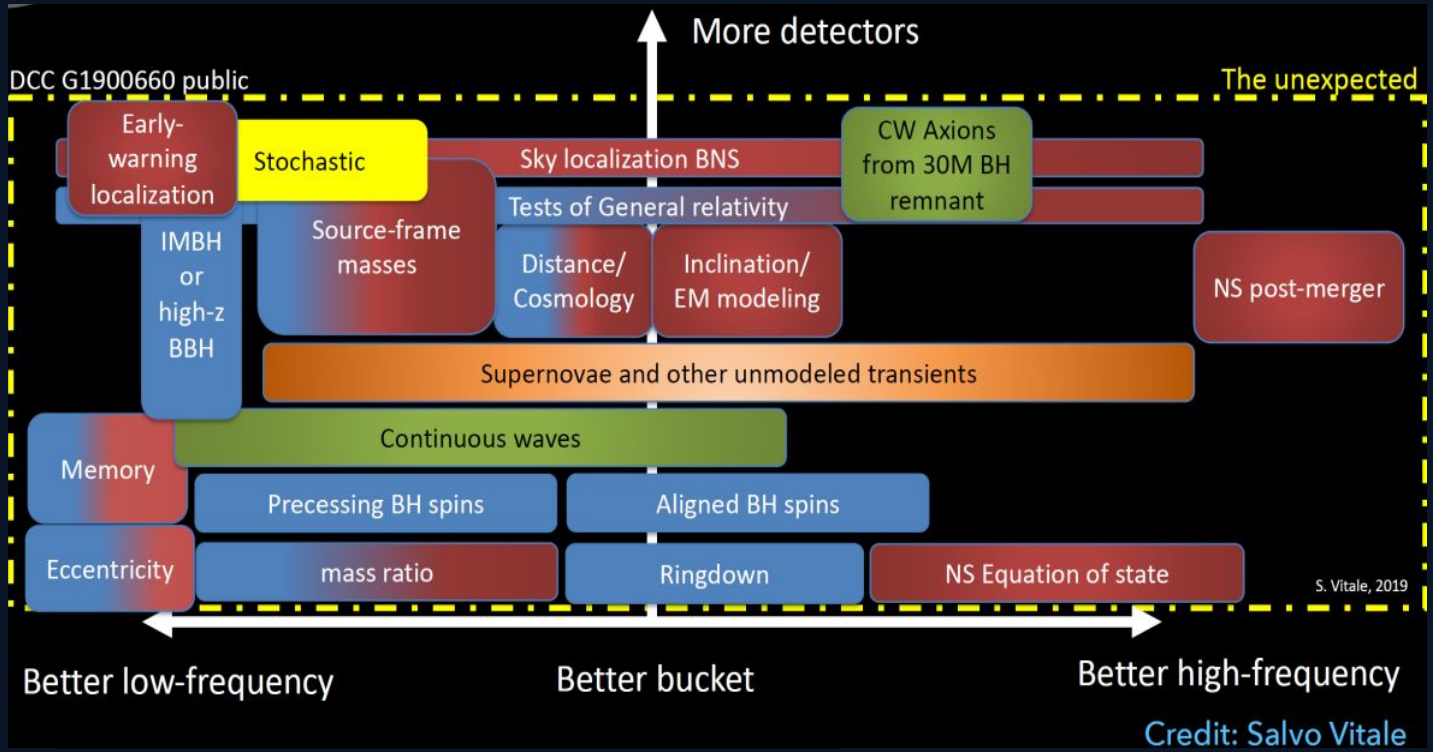


Evan D. Hall and Matthew Evans, Class. Quantum Grav. 36 225002 (2019)

What Can We Expect to Measure?



See much more detail in the ET “blue book”: 2503.12263

ICCUB @ ET

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Thanks to Pablo Barneo for setting up the webpage!

ICCUB ET RU

NEXT ICCUB ET-RU GROUP MEETING

30 APRIL 2026 AT 15:00

(PERE PASQUAL)