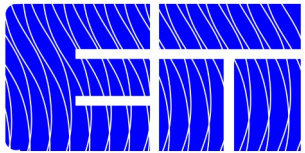
OSB RoadMap Discussion

Michele Maggiore (on behalf of the OSB Chairs)

ET Annual Meeting, Opatija Nov. 11-14, 2025



EINSTEIN
TELESCOPE

Reflections on the ‘post-BB’ phase of the OSB

- Reflection started this Spring together with div coordinators
  - presentations by div coordinators at Bologna Symposium
  - identification of important problems/objectives/milestone for each division and concrete proposals for collaborations among divs
  - OSB input to the ‘core program’

A Roadmap for OSB activities

August 26, 2025

The OSB Chairs: Marica Branchesi, Archisman Ghosh, Michele Maggiore

The OSB Division Coordinators: Michal Bejger, Laura Bernard, Monica Colpi, Elena Cuoco, Giulia Cusin, Tim Dietrich, Irina Dvorkin, Gabriele Franciolini, Giancarlo Ghirlanda, Gianluca Guidi, Ik Siong Heng, Tanja Hinderer, Andrew Levan, Marco Limongi, Michele Mancarella, Michela Mapelli, Andrea Maselli, Samaya Nissanke, Micaela Oertel, Cristiano Palomba, Paolo Pani, Harald Pfeiffer, Rafael Porto, Tania Regimbau, Angelo Ricciardone, Mairi Sakellariadou, Anuradha Samajdar, Bangalore Sathyaprakash, Patricia Schmidt, Riccardo Sturani, Nicola Tamanini

Abstract

This internal ET document presents the outcome of reflections started in the OSB after the completion of the “BlueBook”, with the aim of identifying the most important scientific goals to be pursued by the OSB in the medium-term future (also as an OSB input to the definition of the ET Core Program), developing collaborative projects across divisions, and discussing the practical organization of the work.

Contents

an internal document has been finalized: ET-0422A-25

it will be a “Living document” (an Overleaf for updates has been set up)

aims of the Roadmap:

- organizing the work of the divisions after the BlueBook
- OSB input to the Core Program
- a way for newcomers/people not yet much involved to find their way into ET activities. Do read it!

Code	Access	Title	Date	Author(s)
ET-0422A-25	ET	A Roadmap for OSB activities	2025-09-15	The OSB Chairs: Marica Branchesi, Archisman Ghosh, Michele Maggiore. The OSB Division Coordinators: Michal Bejger, Laura Bernard, Monica Colpi, Elena Cuoco, Giulia Cusin, Tim Dietrich, Irina Dvorkin, Gabriele Franciolini, Giancarlo Ghirlanda, Gianluca Guidi, Ik Siong Heng, Tanja Hinderer, Andrew Levan, Marco Limongi, Michele Mancarella, Michela Mapelli, Andrea Maselli, Samaya Nissanke, Micaela Oertel, Cristiano Palomba, Paolo Pani, Harald Pfeiffer, Rafael Porto, Tania Regimbau, Angelo Ricciardone, Mairi Sakellariadou, Anuradha Samajdar, Bangalore Sathyaprakash, Patricia Schmidt, Riccardo Sturani, Nicola Tamanini

various collaborative projects already scketched. some random examples:

1.1.2 Collaborative projects across divisions

(In parenthesis people who volunteered to coordinate these projects from the Div1 side More help needed!)

- Tests of GR and ET Mock Data Challenge (F. Crescimbeni)
- Connection with LISA Fund. Phys. Working Group (R. Brito, D. Doneva)
- With Div2: Strong field tests of theories for dark energy
- Connection with Div6: degeneracy with the NS EoS (F. J. Llanes-Estrada)
- Other synergies to further develop: Pop (Div3), Waveform (Div8)

In particular, collaboration is foreseen with:
Division 1: for the configuration and analysis of signals that could reveal alternative theories beyond GR
Division 2: for the stochastic background (SBGW)
Division 3: for the choice of population models to use for injected signals
Division 4: for MDC with EM/neutrino detectors. Organization of low-latency MDC.
Division 5: for MDC with other GW detectors.
Divisions 6, 7, and 8: for the waveforms to inject, also considering different EOSs, and related DA developments.
Division 9: for the development of shared DA pipelines and tools.

Find your way to contribute actively to ET !

2.1.2 Collaborative projects across divisions

- Investigate how a joint detection of a stochastic background of GWs across different frequency bands (PTA, LISA, ET) could provide a better characterization of the properties and origin of such a background. Project in synergy with members from different collaborations (also together with Div. 5).
- Perform code validation among different available pipelines in order to provide more accurate and consistent forecast for standard sirens cosmology.

Questions / Comments/ Suggestions ?

the Roadmap is and will remain a “living process”