

Introduction

Steven Schramm

OSB organisers: Ed Porter, Giancarlo Ghirlanda, Marica Branchesi,
Michele Maggiore, Stephen Smartt, and Susanna Vergani

EIB organisers: Patrice Verdier, Stefano Bagnasco, and Steven Schramm

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ET multimessenger activities

- There are two ET divisions directly dedicated to multimessenger astronomy
 - **E-infrastructure board (EIB) division 4: multimessenger alerts infrastructure**
 - **Division chair:** Steven Schramm
 - Design and develop the infrastructure needed for MM trigger management and distribution
 - Follow the development of software tools for low-latency computing
 - **Observational science board (OSB) division 4: multimessenger observations**
 - **Division chairs:** Giancarlo Ghirlanda, Stephen Smartt, Susanna Vergani
 - WP1: electromagnetic and neutrino emission from binary mergers
 - WP2: observations, facilities, strategies for search, identification, and study of ET counterparts
- Today, we aim to bring these two communities together for joint discussions

Motivation for this meeting

- It is clear that MM science will be very important in the future, but less clear what that entails
 - How will people be performing their scientific studies?
 - What types of information will they need for these studies, and how should that information be provided?
 - What information is ET willing/able to provide to the community before the end of the proprietary period?
 - What infrastructure will be needed to support all of this?
- It is too early to concretely answer any of these questions, but we need to start to discuss
 - Other large-scale alert producers (such as the Vera C. Rubin Observatory) will be coming online soon
 - They have already been thinking about these questions, in their context, and have produced tools
 - We need to make sure that our use cases are supported when defining the infrastructure for future MM science
- Today, we aim to have an overview of the current MM strategy of different facilities/observatories
 - Also requested feedback on computing-related aspects and requirements they may have for ground-based GW

Agenda and live minutes

- **Virgo (low latency):** Roberto De Pietri and Sara Vallero
- **Vera C. Rubin Observatory:** Julien Peloton
- **European Space Agency:** Oliver Jennrich
- **European Southern Observatory:** Nando Patat
- **Virtual Observatory:** Giuseppe Greco

- Live minutes will be gathered [here](#)
 - I will do my best to keep track of everything, but will likely miss most of who is speaking in the room
 - Note: testing BSC's B2Drop service, to see if it matches our collaborative needs before ET-wide deployment

The path forward

- The OSB, including the MMO division, is in the process of preparing the “Blue Book”
 - This will naturally include interactions with other facilities/observatories, and is already underway
 - Today’s discussion hopefully helps to contribute to this process
- The EIB needs some guidance on what science cases are envisioned
 - Goal is for science to be supported by the infrastructure, not constrained by it
 - Today’s discussion goes in the direction of helping us to understand what we will need to support
- Following the meeting, we will try to compile a preliminary requirements document
 - Goal is to define general strategies and use cases to support, not yet concrete numbers
 - These will be used as input to future discussions and the eventual EIB TDR process
- **We expect that this will not be the last joint EIB+OSB discussion on MM science!**
 - This is just the start: future MDCs and more realistic data analysis simulations will refine our understanding
 - The involvement of OSB Division 10 will therefore be crucial to the success of this process
- **Stay informed by subscribing to the mailing lists:** EIB Div4 ([sub. link](#)), OSB Div4 ([sub. link](#))