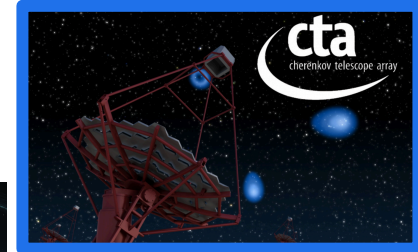
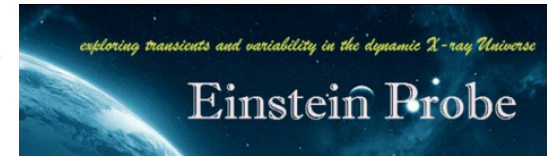
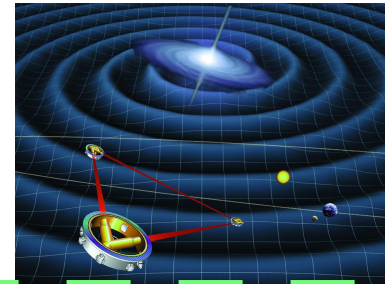
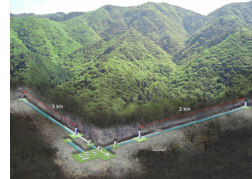
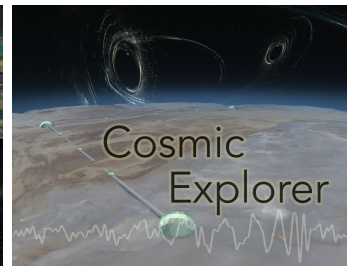
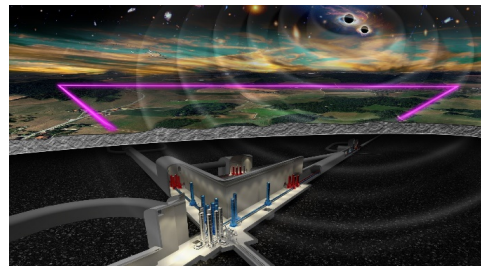
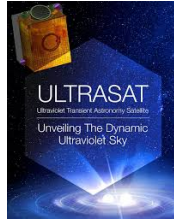
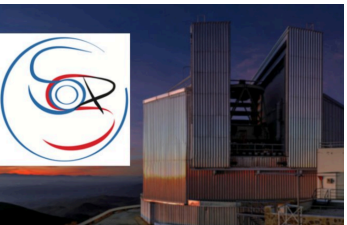
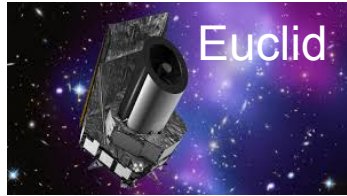


Division Synergy

Marica Branchesi, Michele Maggiore, Ed Porter

Multi-band and -messenger Observatories



In order to maximize the ET science results, it is of strategic importance:

- to build a bridge to communicate, coordinate and collaborate with other electromagnetic and particle observatories;
- to start discussing common science cases, optimization of neutrino and electromagnetic observatories to work in synergy with ET, address possible challenges;
- to facilitate and stimulate the involvement of the world-wide electromagnetic and neutrino astronomy communities in the ET multi-messenger science development and data exploitation.

Div-S: not an operational division
but more a forum

Div-S tasks:

- to identify the best instruments to work in synergy with ET, the possible missing synergies and **define a possible plan to establish a connection**; [input from DIV 4](#)
- to invite reference people from the different experiments to participate in the Div-S;
- to discuss challenges (e.g. missing instruments, optimization of operation) and **define a plan to tackle them**; [input from DIV 4](#)
- to access updated information about experiments, and be sure that other experiments have the correct information about ET;

...Div-S tasks:

- to stimulate discussion on networking and communication infrastructures, and tackling technical issues (e.g. how to deal with billions of alerts, and how to make data accessible and usable to a larger and larger community following the FAIR principle, common platform);
driven by E-Infrastructure Board (EIB), input from DIV 10
- to be updated about synergy fund opportunities, or European project synergy activities;
- to stimulate the interest of different communities on the ET science, e.g. by proposing dedicated workshops on synergies (e.g. ``ET in the era of ELT'', ``ET and CTA synergy").

DIV-S Members:

- People belonging to DIV-S **do not need to become OSB members**, but are external reference and contact point for other experiments;
- PI of the instruments (or persons delegated by them) and possibly major facility users and responsible for activities related to GW;
- If they are interested to actively work to the ET-science case are very welcome to join operational divisions and become OSB members
- Representatives from astronomy organization and agency (e.g. ESO, ESA)
- Key people from current projects funded by Europe aiming at integrate activities within the multi-messenger astronomy (e.g. ESCAPE, AHEAD2020)

What experiments/organization to involve?

- Major observatories which will be operational in 10-15 years and observatories projects which are considered important to work in synergy with ET
- ESFRI observatories → necessary to not duplicate efforts; build synergies for science, data analysis, computing; to exploit science and infrastructure efforts from now to ET era from which ET can benefit;
- Upcoming instruments which can help/influence the ET science
- Major collaborations involved in the current follow-up
- ESO and ESA

Division tools:

- Mailing list
- Public Wiki
- Telecon/workshop 2-3 per year

Recent example of tight collaboration:



- some of us actively participate in the THESEUS working groups;
- recognizing the strategic importance for ET to work in synergy with THESEUS, there were cross-representatives in ET and THESEUS consortia;
- support letter addressed to ESA was signed by the ET steering committee;

DIV-S is thought to help in formalizing this type of collaboration

All the activities of the Div-S need to be developed in tight contact and coordination with the ET Executive Board.