
Thinking on computing requirements work organization

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ET goals

- ET purpose is not to make detection.
 - We have to assume that detection has been already done by Advanced Detectors.
 - We have to **forget** our DA cultural approach due to the actual detectors VIRGO/LIGO/etc..
- ET goal is to observe
 - measure and make “broadband” physics

Extract as much as possible information from the GW signal

- Understand the information carried on by GW signals at ET scale, e.g.:
 - gravitational physics
 - Formation/Accretion processes
 - Neutrino physics
 - Gamma-ray physics
 - Nuclear physics
 - Dark Matter/Energy
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- This “ET science opportunity list” can be defined for each signal

Proposal: Create a catalog

- In order to have a whole point of view and to organize the Computing requirements task, we could think to create something like an "open" table/database, where every science team periodically writes information such as (draft):
 - Source Class
 - Source Type
 - Source Name
 - Typical time duration bound
 - Typical frequency bound
 - Theoretical model completeness level
 - Detection methods
 - Parameters reconstructions methods
 - references
 - multi-messenger ref. (if any)
 - ET science opportunity list (+details for each item)
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- This “database” could provide us and to the other WGs a clear picture of the ET science goals.

Computing requirements the first level hierarchy:

- “Common”
 - We have to keep an eye on the general developments
 - Take advantage of the advances in computational technologies.
- “Dedicated”
 - what sort of computational resources might be required for ET data processing
 - Which kind of algorithms are required to search for signals in the ET era → Which data analysis paradigms?