Complementary Plan

Gravitational Waves

M. Martinez, 21st Feb 2023

Motivation

Advanced Virgo & Einstein Telescope

- The PC funds (782k€ direct cost) will be used to
  - Complete the Advanced Virgo phase II hardware upgrade
    - Instrumented baffles in main arms end mirrors (ongoing) [200k€] + 54k€ (FPN)
      - Already 154k€ of PC+FPN already spent in 2022
  - Energetic activity in Einstein Telescope R&D
    - Vacuum beam pipe prototype @ CERN (ongoing) [150k€] (compromised)
    - Baffle prototypes and R&D on materials and coatings [51k€] (ongoing)
    - R&D on alignment system for Einstein Telescope Pathfinder [100k€] (compromised)
  - Personnel (1 postdoc (2ys), 2 students (2ys) & technical division) [251k€] (compromised)

Numbers

PC and FPN (direct costs)

- The PC number are planned in coordination with FPN project
  - FPN (20211-2024) [365k€]:
    - 191k€ personnel (106k€ for technical division in 2021/22) [**52% of total**]
      - Already spent in 2021/2022 —> saturated FPN budget
    - 120k€ small equipment and trips
    - 54k€ Virgo upgrade
  - No way to charge personnel to FPN in 2023/2024
- **PC funding for personnel needs to be increased**

PC granted and required (case 1)

Asking modifications only of the Gencat part (direct costs in €)

GRANTED NEEDED	GenCAT	Ministry	TOTAL
PERSONNEL	0 77000	173913	173913 250913
EQUIPMENT	295652 218652 (-26,0%)	0	295652 218652
OTHERS	226087	86956	313043

The 251k€ will cover existing personnel (1 postdoc and 2 students (2023/2024) + technical division)
—> as postdocs and PhDs get fellowships the rest of the money will be invested in technical division
—> As by now technical division FPN+PC received 156k€ in 2021/2022

PC Budget Breakdown

- Personnel [251k€]
  - Ornella Piccini (postdoc) [96k€]
  - Giada Caneva (PhD) [48k€]
  - Catalina Miritescu (PhD) [48k€]
  - Workshop [50k€]
- Equipment [218k€] [30k already spent]
  - Upgraded Mechanics and Electronics Lab [40k€]
  - Upgraded Optical Setup for TIS measurements [20k€]
  - FP Cavity under vacuum for UHV validation [120k€] +
  - Calibrated photosensors [10k€]
  - Powerful lasers @ 1 and 2 microns [28k€] +
- Others [313k€] [106k€ already spent]
    - Vacuum beam pipe prototype @ CERN [150k€]
    - Virgo Baffles for Phase II [150k€]
    - InGaAs sensors [13k€] +

PC granted and required (case 2)

Asking modifications only of the Ministry part (direct costs in €)

GRANTED NEEDED	GenCAT	Ministry	TOTAL
PERSONNEL	0	173913 **250913 (+144%)**	173913 **250913**
EQUIPMENT	295652	0	295652
OTHERS	226087	86956 **9956 (-88.6 %)**	313043 **236043**

77k€

The 251k€ will cover existing personnel (1 postdoc and 2 students (2023/2024) + technical division)
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