

FLARE table

- FLARE table is useful for
 - Defining the priority for the actual requests (short term)
 - Indicating the funding needs to SERI and SNSF for a longer term
- General input for the 2017-2020 requests
 - Approved FLARE budget in 2017-2020: 32 MCHF
 - **In the past**, 2013-2016, 25.4 MCHF total 12% (3.2 MCHF) for CHAPS (astronomy&astrophysics) and **88%* for CHIPP** (particle&astroparticle)
 - CHAPS and CHIPP are expected to present the corresponding community's priorities at the FLARE panel meeting
 - *88% of 32 MCHF is ~28 MCHF**
- Thanks to the effort by the SERI, no FLARE fund is required for the accelerator R&D and CTA
 - Accelerator R&D are already receiving special fund
 - CTA will receive special fund in the framework for enabling Swiss researchers to access large international research infrastructure

FLARE table

- Current CHIPP intention for 2017-2020 FLARE requests
 - LHC (M&O, Computing, ATLAS, CMS, LHCb): 21.35 MCHF
 - Accelerator ν : 4.910 MCHF
 - GERDA+XENON/DARWIN: 2.180 MCHF
 - “small” requests, DAMIC, $\mu 3e$, GBAR: 1.000 MCHF
 $\mu 3e$ are somewhat larger (500kCHF)
- A total of 29.440 MCHF
 - For 2017-2018: 15.54 MCHF
 - For 2019-2020: 13.90 MCHF
- Note the 32 MCHF (FLARE fund) and 28 MCHF (“canonical” 88%) or 29 MCHF (constant for CHAPS)
Our strategy could be to **agree to reduce to ~29 CHF** (~8%) and **setting priority?**

For 2017-2020 priority discussion

- LHC programme
 - LHC M&O (3.835MCHF): governed by the MoU, decided by the RRB
 - Computing (3.53MCHF): T2 commitment governed by the MoU, decided by the RRB, plus manpower to run T2 at CSCS
 - ATLAS (6.675 MCHF), CMS (4.6 MCHF) and LHCb (2.71 MCHF) operation cost and investment for the upgrade:
 - ATLAS and CMS Phase II **upgrade installed by ~2025**
 - LHCb **upgrade installed by 2020**.
 - European Strategy (ES) highest priority project,
 - large CH participation in the all three experiments.

For 2017-2020 priority discussion

- Neutrino programme
 - Long baseline: 3.25 MCHF
 - T2K Phase-1 with BE, GE, ETHZ making very visible contributions, plan to continue till ~2020.
 - NA61 important data for other experiments including T2K and DUNE.
 - DUNE related R&D (1.6 MCHF) @ CERN neutrino platform with very active participation by the BE, ETHZ.
 - T2K Phase-2/HyperK in Japan: strong interest for T2K Phase-2 by GE where PI retires in less than two years. No decision on the HyperK
 - Short baseline: 1.66 MCHF
 - MicroBooNE and SBND, BE in US short baseline experiments

For 2017-2020 priority discussion

- $0\nu 2\beta$ and dark matter
 - GREDA (0.48 MCHF), XENON (0.8 MCH), DARWIN (0.90 MCHF)
 - ZH. (BE PI leaves and successor will not continue the same field.)
 - GERDA and XENON ongoing, XENONnT upgrade
 - DARWIN next generation experiment R&D
 - DAMIC: 0.2 MCHF
 - ZH group
 - Request for 2019-2020

For 2017-2020 priority discussion

- Other experiments
 - GBAR: 0.3 MCHF
 - ETHZ
 - $\mu 3e$: 0.5 MCHF
 - muon beam @ PSI
 - Request for 2019-2020

Possible CHIPP conclusions

- Long baseline ν programme:
 - T2K Phase-1 operation to be supported. The amount must reflect the change in the size of the CH participation.
 - NA61 to be supported since it will be useful to multitude of accelerator based neutrino experiments.
 - T2K Phase-2 R&D effort could be supported to a modest level for 2017-2018. New discussion will be needed later for 2019-2020 depending on the successor of the GE PI.
 - HyperK no support for 2017-2018. New discussion will be needed later for 2019-2020 depending on the successor of the GE PI and Japanese decision on the project.
 - DENE R&D to be supported to an adequate level as the current main CH accelerator based ν activity.
- Short baseline ν programme:
 - MicroBooNE/SBND to be supported reflecting the impact of participating CH community.

Possible CHIPP conclusions

- Recommendation to SERI for possible dedicated funding for the long baseline ν programme infrastructure:
 - Given the clear interest and commitment by the two CH groups, the CHIPP recommend the SERI to start discussing with the US to identify possible CH contribution to the infrastructure of LBNF/DUNE. This could even include toward the accelerator or beam line.
 - Such an initiative would call for an extra dedicated funding by SERI.
 - Given the physics potential of the project, the CHIPP considers that it is premature to close the possibility of contributing the the HyperK at this moment.
 - The CHIPP recommends that if the SERI were able to provide the dedicated funding, to keep about 1/3 of the funds for the future discussion which should take place in about two years. This would then still allow to make contribution to the infrastructure of the HyperK if there were strong push to join the project by the CH community and the project were approved by the Japanese government at that moment.

Possible CHIPP conclusions

- GERDA+XENON/DARWIN
 - GERDA and XENON1T operation to be supported
 - XENONnT activity to be supported
 - Needs for DARWIN for 2019-2020 better understood