

# Support of APP in Ukraine

**Fedor Danevich<sup>1,2</sup>**

<sup>1</sup> Institute for Nuclear Research, the National Academy of Sciences of Ukraine, Kyiv, Ukraine

<sup>2</sup> INFN, sez. di Roma "Tor Vergata", Rome, Italy

# Possible measures to support APP scientists in Ukraine

The situation in Ukraine remains very hard. Nevertheless, many “APP scientists” continue their research. Scientific institutions of many countries support people from Ukraine opening positions for Ukrainian scientists. However, male scientists below age 60 cannot leave Ukraine due to the martial law (also many female scientists prefer to stay in Ukraine to keep their families together), while the government and Ukrainian funding agencies reduced financing of the scientific programs substantially.

## Ways to support APP researchers in Ukraine:

- 1) 2-3 years grants for research groups in Ukraine to support projects in the field;
- 2) scholarships in European scientific institutions for PhD students and young scientists involved in the researches in Ukraine;
- 3) 3-6 short-term research fellowship or visiting scientist grants to participate in international collaborations;
- 4) remote access to the EU high value scientific equipment (HPC clusters, Telescopes, etc.)
- 5) providing scientific equipment to the Ukrainian groups in exchange for destroyed or obsolete ones.

# APP groups in Ukraine [1]

- Main astronomical observatory NAS of Ukraine (Kyiv)
  - Department of Physics of Stars and Galaxies
  - Department for Extragalactic Astronomy and Astroinformatics
- Bogolyubov Institute for Theoretical Physics of NAS Ukraine (Kyiv)
  - Department of astrophysics and elementary particles
- Pidstryhach Institute for Applied Problems in Mechanics and Mathematics of NAS Ukraine (Lviv)
- Institute of Radio Astronomy NAS of Ukraine (Kharkiv)
- Institute for Nuclear Research NAS of Ukraine (Kyiv)
- Kharkiv Institute of Physics and Technology of NASU (Kharkiv)
- Institute of scintillation materials NAS Ukraine (Kharkiv)
- Scientific research company “Electron-CARAT” (Lviv)
- Taras Shevchenko National University (Kyiv) (2 groups)
- Ivan Franko National University (Lviv)
- I.I. Mechnikov National University (Odessa)

Almost all the groups have partner institutions (participate in collaborations) in Europe

[1] F.A. Danevich, Non-accelerator particle physics in Ukraine, Bulletin of the National Academy of Sciences of Ukraine 3 (2022) 71 (in Ukrainian)

# Possible grants sizes

NRFU **research grant** “Double beta-decay” in 2020-2022\* was 97 000 euro / yr / 7 scientist , ~10-15 keuro / scientist /yr

An **R&D** to develop enriched  $^{100}\text{Li}_2\text{MoO}_4$  crystal scintillators for CUPID (1 yr project):

- |   |           |
|---|-----------|
| - INR NASU ( $^{100}\text{Mo}$ and Li purification)   | 290 keuro |
| - SRC “Electron-Carat” (crystal growth and treatment) | 230 keuro |

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\*The grant was suspended in 2022 due to the war