# THE ECOS-LINCE PROJECT

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The European Collaboration on Stable-Ion Beams (ECOS) [1] is a working group of the Nuclear Physics European Collaboration Committee (NuPECC) [2], an expert committee of the European Science Foundation (ESF). In the latest report of ECOS [3], the construction of a high-intensity accelerator for stable ion beams at energies at and above the Coulomb barrier is considered as one of the most important issues in the next long-term plan of the nuclear physics community in Europe. The ECOS report [3], which summarises the interests of the nuclear-physics community in Europe, identifies several topics where investigations can be only addressed with or could strongly benefit from the use of high-intensity stable beams:

- Synthesis and spectroscopy of super-heavy nuclei
- Nuclear-structure studies at low, medium and high spin
- Ground-state properties
- Near-barrier transfer and fusion reactions
- Nuclear astrophysics
- Ion-ion collisions in plasma

Although ECOS-LINCE, the project aiming to realise the construction of the high-intensity accelerator, is to a large extent dedicated to fundamental research, it is also foreseen to dedicate a sizeable fraction of the ion-beam to industry and societal applications. Applied research can also be foreseen in the fields of medical physics, energy, aerospace and material sciences. The construction of the facility should be based on a reliable design using well-established technologies, aiming to provide an effective beam-time allocation of about 5000 h/y for fundamental physics and 2000 h/y for applications.

REFERENCES

[1] ECOS, http://www.ensarfp7.eu/projects/ecos
[2] NuPECC committee, http://www.nupecc.org/
[3] http://www.nupecc.org/pub/ECOS-Final.pdf