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## Progress towards the CERN Gamma Factory

*Thursday, 7 July 2022 16:00 (20 minutes)*

As part of the Physics Beyond Collider study group, the CERN Gamma Factory is an innovative proposal to exploit the potential of CERN to accelerate at ultra-relativistic energies partially stripped ion with high intensity such that their low lying atomic levels be excited by state of art optical systems. This may enable a very broad range of new applications from atomic physics to particle physics, including their applicative counterparts thanks to the production of high-energy photon beams (up to 400 MeV) with unprecedented intensity (up to  $10^{18}$  photons per second). A large variety of theoretical developments have reinforced the interest of the community in this project in the past two years as shown in the special issue of *Annalen der Physik* (<https://onlinelibrary.wiley.com/toc/15213889/2022/534/3>). Recent progress towards the realization of a proof of principle experiment at the CERN SPS will be shown.

### In-person participation

Yes

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