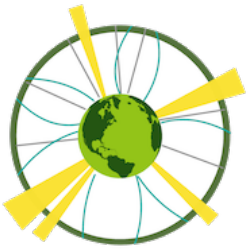

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Countering the biodiversity loss using particle physics research sites

Wednesday 14 May 2025 09:15 (15 minutes)

The climate changes, finite amounts of resources and loss in biodiversity are the three major socio-ecological problems faced by humanity. They have been recognized as urgent matters by international bodies, and regular national recommendations or international agreements set scopes to be reached in the next few decades or even years. As these scopes appear as simultaneously insufficient and challenging, there seems to be a consensus on the fact that all activities should work on reducing their greenhouse gases emissions, and their material and biodiversity footprints.

Sustainable development aspects therefore recently received an increasing interest in the high energy physics (HEP) community. But, of the three problems mentioned above, biodiversity appears as the least familiar, and HEP impacts on it have not been studied yet.

After an introduction to what defines biodiversity, to its status and the consequences, I will therefore show why the HEP sites – from small laboratories to accelerator sites – can play a significant role in halting the loss in biodiversity, because of their intrinsic characteristics. I will show examples of situations and projects, which demonstrate that more action is possible on most current HEP sites, and that future sites have a potential to locally halt the biodiversity loss, provided this criterion is taken into account at the earliest step of the project design.

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