Laser-Plasma Accelerators Workshop



Contribution ID: 131

Type: Invited Talk

The Extreme Photonics Applications Centre (EPAC)

Friday, 18 April 2025 11:33 (33 minutes)

Over the past decade, laser systems capable of delivering extremely high power at high repetition rates have been developed. These developments now enable acceleration of charged particles to near-light speeds in a very compact plasma channel –a few centimetres as opposed to kilometres required in a conventional accelerator. This technology is now considered "mature enough" for driving super-bright energetic radiation and particle sources for applications cutting across a multitude of areas in society; facilities are being designed and constructed based on this technology. I will talk about a new facility coming up in the UK based on this – the Extreme Photonics Applications Centre (EPAC). EPAC will host a Petawatt laser running at 10Hz, driving plasma accelerators producing high-energy particle and x-ray beams for fundamental science and applications in a multitude of areas –from industry, biology & medicine to security and defence. We will give an overview of the facility, describing the latest developments and future directions of EPAC.

Primary author: PATTATHIL, Rajeev (Rutherford Appleton Laboratory)Presenter: PATTATHIL, Rajeev (Rutherford Appleton Laboratory)Session Classification: Plenary Session