

## **Virtual Hard X-Ray Collaboration Seminar Series**

**Date:** Thursday 30<sup>th</sup> September 2021

**Title:** HERO: Echo Enabled Harmonic Generation (EEHG) at SwissFEL

**Speaker:** Romain Ganter, Paul Scherrer Institute, SwissFEL

### **Abstract:**

The Athos FEL line at SwissFEL aims to offer a large variety of beam parameters like short pulses (sub femtoseconds), two colors operation or also wide and large bandwidth FEL pulses with an energy chirp in transversal space. This versatility is possible thanks to key technologies like the APPLE X undulators and a special layout configuration such as the magnetic chicanes present between every undulator segment. To improve the longitudinal coherence and spectral stability of the Athos FEL, an Echo Enabled Harmonic Generation (EEHG) scheme is currently being installed in Athos in the frame of the HERO (Hidden, Entangled and Resonating Orders) ERC grant. After an overview of the Athos layout, performances and difficulties, the talk will focus on a more detailed description of the EEHG project and components.