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## **Burst mode compact optical cavity for Inverse Compton scattering sources**

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Inverse Compton Scattering is a promising technique to deliver compact, high brightness and high rate sources of photons ranging from few keVs to several MeVs. Current projects either focus on producing high rates of photons thanks to high-power (up to 300kW) enhancement optical cavities and electron storage rings or on providing low bandwidth photon sources based on room-temperature linacs. Burst mode operated optical enhancement cavities coupled to pulsed RF multi-bunch linac systems have the potential to provide high quality and high rate at the same time. To this end we concentrate on realizing innovative systems operated at GHz frequencies with repetition rates of several hundreds of hertz corresponding to linac RF-pulsing capabilities. Recent experimental advances, made within a collaboration between Amplitude and IJCLab, in the realization of a compact enhancement cavity seeded by a GHz laser and operated in burst mode are described. Performance will be reported along with prospects for improvements.

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### **Footnotes**

### **I have read and accept the Privacy Policy Statement**

Yes

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