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## **Instrumentation and operation modes for the commissioning phase of the SEALab SRF photoinjector**

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Superconducting radio-frequency (SRF) photoinjectors offer a broad range of electron beam parameters and are therefore suitable for many applications such as energy recovery linac (ERL) driven lightsources, particle colliders, or for ultrafast electron scattering experiments. We are now nearing completion of the setup a SRF photoinjector with a SRF gun and SRF booster linac at the SEALab accelerator test facility at HZB. The goal here is to realize an electron source with high brightness and high average current. In this work, the general planning for the commissioning phase, the operation modes and investigations into the diagnostic tools for achieving the expected beam parameters will be presented. The focus of the instrumentation is to provide information on the beam parameters at large dynamic range and on mechanisms for beam loss generation.

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### **Footnotes**

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