



Contribution ID: 2501 Contribution code: THPL138

Type: **Poster Presentation**

## Electron gun for sheet electron probe for beam tomography

*Thursday, 11 May 2023 16:30 (2 hours)*

In the novel device described in this presentation uses a simple, strip cathode provides a sheet beam probe for tomography instead of a scanning pencil beam that was used in previous electron probe bunch profile monitors. The apparatus with the strip cathode is smaller, has simpler design and less expensive manufacturing, has better magnetic shielding, has higher sensitivity, higher resolution, has better accuracy of measurement, and better time resolution. With this device it is possible to develop almost ideal tomography diagnostics of bunches in linear accelerators and in circular accelerators and storage rings. Currently we are planning to build a prototype tomography system will be built for testing in a proton or ion beam.

### Funding Agency

DOE SBIR grant DE-SC0021581

### Footnotes

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

Yes

**Primary author:** DUDNIKOV, Vadim (Muons, Inc)

**Co-authors:** CUMMINGS, Mary Anne (Muons, Inc); DUDNIKOVA, Galina (Muons, Inc); GOMEZ, Edgar (Euclid TechLabs, LLC); JING, Chunguang (Euclid Beamlabs LLC); JOHNSON, Rolland (MuPlus, Inc.); KOSTIN, Roman (Euclid Beamlabs LLC)

**Presenter:** CUMMINGS, Mary Anne (Muons, Inc)

**Session Classification:** Thursday Poster Session

**Track Classification:** MC6: Beam Instrumentation, Controls, Feedback and Operational Aspects: MC6.T03: Beam Diagnostics and Instrumentation