



## System And Method For Characterizing Ions Using A Superconducting Transmission Line Detector

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### The Invention

A system and method for characterizing incident ions are provided. The method includes positioning a transmission line detector to receive incident ions, the transmission line detector comprising a superconducting meandering wire defining a detection area for incident ions, and applying a bias current to the transmission line detector. The method also includes detecting a first signal produced in the transmission line detector due to an ion impacting the detection area, and detecting a second signal produced in the transmission line detector due to the ion impacting the detection area. The method further includes analyzing the first signal and the second signal to characterize the ion. In some aspects, the method further includes identifying a delay between the first signal and the second signal to determine, using the identified delay, a location of the ion on the detection area.

### Additional Information

#### For More Information About the Inventors

- [Robert McDermott](#)

#### Tech Fields

- [Information Technology : Hardware](#)
- [Research Tools : Other research tools](#)

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