OAK RIDGE NATIONAL LABORATORY
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High Speed High Dynamic Range High Accuracy Measurement System

Disclosure Number

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Technology Summary

The present invention measures a beam of protons that has a high dynamic range. Typically, one uses standard current-transformers to measure this current. Since the currents can be very tiny (micro-amperes) to large (tens of milliamperes), standard current transformers cannot measure accurately due to noise, and are typically slow devices. The system provides an ability to measure signals that span six orders of magnitude with an accuracy over the entire range to an accuracy of 5%, while permitting the signal to change dynamically in time.

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