OAK RIDGE NATIONAL LABORATORY
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Power Flow Control Using Distributed Saturable Reactors

Disclosure Number

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Technology Summary

This invention combines proven concepts and new technologies in one device that will revolutionize power systems operation. A simple, saturable core, series reactor, with continuous inductance regulation that uses power electronics to provide and control the bias dc current is proposed. The device is simple, reliable, flexible, cost-effective, and not disruptive to the existing power system. It can be applied at all voltage and power levels. The non custom design is inherently amenable to mass production. The cost-effectiveness of the device allows system-wide deployment and distributed power flow control on a large scale. For the first time power systems can be operated not just in compliance with the laws of physics, but also in ways that are market friendly, most economical, and most reliable.

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