

UNB Physics Department Seminar

Parallel-Plate Resonator as an integrated device for MRI studies of lithium ion batteries

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Rechargeable batteries with high energy density are in great demand as energy sources for various purposes. Lithium ion batteries are the most promising to fulfill such needs because of their high discharge voltage, light weight and low self discharge rate. However, optimizing the performance of such batteries has been hindered by incomplete understanding of lithium ion transport in the electrolyte solution and intercalation of the lithium ions into the electrodes.

MRI has proven to be a powerful technique to study electrochemical devices because it provides spatially resolved information about species in solution. This seminar presents a RF parallel-plate resonator as an integrated device for MRI studies of lithium ion cells. Voltage profiles during charge and discharge of the cell inside the parallel plate resonator are presented and discussed. Possible challenges faced while integrating electrically the parallel-plate resonator are also addressed.

Thursday Feb. 21, 2019, 1:15--2:15 pm in P204.
Colloquium tea in P203 beforehand