



Canadian Association  
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Association canadienne  
des physiciens et physiciennes

Contribution ID: 4424

Type: **Invited Speaker** / **Conférencier(ère) invité(e)**

## Investigations of strongly correlated heavy-fermion materials with $\mu$ SR

*Wednesday 29 May 2024 10:30 (30 minutes)*

Heavy fermion compounds are strongly correlated systems with partially filled 4f or 5f electron bands. The ground states of heavy fermion materials are determined by a competition between the on-site Kondo interaction that screens the local 4f or 5f magnetic moments and the inter-site Ruderman-Kittel-Kasuya-Yosida exchange interaction. Muon spin rotation and relaxation ( $\mu$ SR) techniques have been used for decades to investigate these ground states. In recent years we have applied  $\mu$ SR to the study of two heavy-fermion compounds of special interest, namely, the candidate topological Kondo insulator SmB<sub>6</sub> and the rare spin-triplet superconductor UTe<sub>2</sub>. In this talk I will describe some of our experiments on these compounds and forthcoming  $\mu$ SR capabilities at TRIUMF.

### Keyword-1

Heavy fermion compounds

### Keyword-2

Muon spin rotation/relaxation

### Keyword-3

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**Session Classification:** (DCMMP) W2-7 Fluctuations, interactions and Disorder in Condensed Matter | Fluctuations, interactions et désordre dans la matière condensée (DPMCM)

**Track Classification:** Symposia Day (Wed May 29) / Journée de symposiums (Mercredi 29 mai): Symposia Day (DCMMP - DPMCM) - Fluctuations, interactions and Disorder in Condensed Matter / Fluctuations, interactions et désordre dans la matière condensée