



Contribution ID: 22

Type: **Poster Presentation**

Revisiting the Muon Response in YbBO₃

YbBO₃ is an intriguing example of a geometrically frustrated magnet. Early muon spin spectroscopy study reported an increase in the muon depolarization rate below 400 mK, but no oscillations indicative of long-range order were detected [1]. In contrast, subsequent investigations using other experimental techniques revealed that YbBO₃ does indeed undergo magnetic ordering [2]. A recent proposal suggested that inadequate thermalization in μ SR experiments—addressable by mixing the sample with silver powder—might explain the discrepancy [3]. We revisited the μ SR measurements using YbBO₃ samples mixed with Ag powder to enhance thermal coupling. We will present results that show signatures of magnetic order, reconciling previous inconsistencies and providing a clear picture of the low-temperature magnetic ground state of YbBO₃.

[1] Somesh et al., Phys. Rev. B **107**, 064421 (2023)

[2] Sala et al., Sala et al., J. Phys.: Condens. Matter **35** 395804 (2023)

[3] Treu et al., J. Phys.: Condens. Matter **37** 013001 (2025)

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Session Classification: Poster Session 1

Track Classification: Magnetism