## The 23rd International Conference on Few-Body Problems in Physics (FB23)



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## Atomic Magnetometers: Nonlinear Spin Dynamics & Applications

Monday, 23 September 2024 12:00 (30 minutes)

Quantum sensing technologies are opening new avenues to achieve unprecedented sensitivity and spatial resolution. Atomic Magnetometers are delivering important applications in biomedicine and fundamental physics. We propose a novel set-up consisting of multiple atomic magnetometers coupled together via a feedback magnetic field. We find the system exhibits rich nonlinear dynamics, including limit cycles, quasi-periodic orbits and chaos. We discuss the implications of these phenomena to quantum sensing.

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Track Classification: Interdisciplinary aspects of few-body physics and techniques