

## **Magnetic excitations in sodium spin mixtures**

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Superfluid spin mixtures support a rich variety of phases and topological excitations.

I will report on the observation of long-living magnetic solitons and their collisional mechanisms in a one dimensional sodium spin mixture.

Adding coherently coupling in an extremely stable magnetic field environment, we are able to engineer magnetic-like heterostructures and observe the evolution of the magnetic domain walls into chaotic waves.