

TOPOLOGICAL SOLITONS AS NUCLEI

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ABSTRACT

Topological solitons [1] are particle-like solutions of nonlinear partial differential equations. This contribution will provide an introduction to Skyrmions, which are topological solitons that model nuclei [2]. Some of the properties of Skyrmions will be discussed in Skyrme's original theory, followed by more recent developments that attempt to improve on this theory, for example by matching the cluster structure of light nuclei [3].

- [1] Manton, N.S. and Sutcliffe, P.M. 2004 *Topological Solitons*. Cambridge University Press.
- [2] Manton, N.S. 2022 *Skyrmions: A Theory of Nuclei*. World Scientific.
- [3] Naya, C. and Sutcliffe, P.M. 2018 Skyrmions and clustering in light nuclei. *Phys.Rev.Lett.* **121**, 232002.