

References for LMS lecture “Skyrmions and nuclei”

by Chris Halcrow

For most of the references, I have included a link to their InspireHEP page. I find this the easiest website to navigate papers.

References

- [1] Skyrme introduces the Skyrme model: “A Nonlinear field theory,” <https://inspirehep.net/literature/40077>.
- [2] Witten shows that the Skyrme model is a large N limit of QCD: “Baryons in the 1/n Expansion,” <https://inspirehep.net/literature/140391>
- [3] The $B = 108$ Skyrmion is constructed: “Skyrmions up to Baryon Number 108,” <https://inspirehep.net/literature/1189685>
- [4] The Skyrme model is related to the alpha-particle model: “Skyrmions and the alpha-particle model of nuclei,” <https://inspirehep.net/literature/717972>
- [5] Quantisation of the $B = 1$ Skyrmion: “Static Properties of Nucleons in the Skyrme Model,” <https://inspirehep.net/literature/190174>
- [6] Finkelstein and Rubinstein suggest how to deal with quantisation on non-connected moduli spaces: “Connection between spin, statistics, and kinks” <https://inspirehep.net/literature/53139>
- [7] A 2π rotation in $SU(2)$ is non-contractible but a 4π rotation is: <https://www.damtp.cam.ac.uk/user/examples/D18S.pdf2>
- [8] Figuring out the FR constraints for the $B = 2$ Skyrmion: “The Deuteron as a Toroidal Skyrmion,” <https://inspirehep.net/literature/261942>
- [9] FR constraints for any Skyrmion described using a Rational Map: “Homotopy of rational maps and the quantization of skyrmions,” <https://inspirehep.net/literature/601023>
- [10] Getting closer to nuclear physics, for $B = 1 - 8$.: “Light nuclei as quantized skyrmions,” <https://inspirehep.net/literature/755171>