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The Falsification of Chiral Nuclear Forces

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This work is based on

1) Low energy chiral two pion exchange potential with statistical uncertainties

By R. Navarro Pérez, J.E. Amaro, E. Ruiz Arriola.

arXiv:1411.1212 [nucl-th].

10.1103/PhysRevC.91.054002.

Phys.Rev. C91 (2015) no.5, 054002.

2) Partial Wave Analysis of Chiral NN Interactions

By R. Navarro Perez, J.E. Amaro, E. Ruiz Arriola.

arXiv:1310.8167 [nucl-th].

10.1007/s00601-014-0817-3.

Few Body Syst. 55 (2014) 983-987.

3) Coarse grained NN potential with Chiral Two Pion Exchange

By R. Navarro Pérez, J.E. Amaro, E. Ruiz Arriola.

arXiv:1310.6972 [nucl-th].

10.1103/PhysRevC.89.024004.

Phys.Rev. C89 (2014) no.2, 024004.

4) Nucleon-Nucleon Chiral Two Pion Exchange potential vs Coarse grained interactions

By Rodrigo Navarro Perez, J.E. Amaro, E. Ruiz Arriola.

arXiv:1301.6949 [nucl-th].

PoS CD12 (2013) 104.

Summary

Chiral forces are QCD based interactions which are expected to describe consistently and systematically nuclear dynamics. We discuss some loose ends regarding their behavior at very low energies and large distances and the possibility to validate them with the many available data.

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