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Nuclear structure, nuclear models and symmetries

Tuesday, 18 July 2023 09:00 (45 minutes)

I will start the talk with some thoughts on our current theoretical understanding of the structure of the nucleus, avoiding as much as possible technical details and concentrating on recent advances and broad aims. Despite the recent trend to view the nucleus from a computationally intensive angle, I will argue that this can only provide a partial picture and that parametrised models will remain an unavoidable element of nuclear structure. Specifically, models based on symmetries can play a vital role in establishing an understanding of complex nuclei from a simple perspective. After a brief historical review of the benchmark symmetry models of the nucleus, I will provide examples on how the symmetry approach can be relevant for the interpretation of recent nuclear data.

Primary author: VAN ISACKER, Piet (GANIL)

Presenter: VAN ISACKER, Piet (GANIL) **Session Classification:** Session 4

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