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Nuclear Structure and Response

JOSEPH CARLSON, Los Alamos National Lab

The nucleus is an intriguing quantum many-body system which simultaneously has strong two-nucleon correlations at short distances and rich shell structure and superfluid pairing at larger distances. Advances in computational nuclear physics allow us to address these issues simultaneously, yielding a high-resolution picture of nuclei. I will review recent progress in ab-initio computational nuclear emphasizing both these aspects and their experimental signatures.