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Effective field theory for deformed odd-mass nuclei[1] THOMAS PAPENBROCK, University of Tennessee, Knoxville, HANS WEIDENMÜLLER, Max-Planck-Institut für Kernphysik, Heidelberg — This talk presents an effective field theory (EFT) for deformed odd-mass nuclei. These are described as a nucleon coupled to an axially symmetric core. The power counting exploits the separation of scales between low-lying rotations and higher-lying excitations of the core. At leading order, the core and the nucleon are coupled by universal derivative terms. These consist of a covariant derivative and a gauge potential and they account for Coriolis forces. Odd-mass nuclei with rotational band heads that are close in energy and differ by one unit of angular momentum are triaxially deformed. For band heads that are well separated in energy, triaxiality becomes a subleading effect. The EFT is developed up to next-to-leading order and applied to ^{239}Pu and ^{187}Os. The EFT presents a model-independent approach to the particle-rotor system that is capable of systematic improvement. The work is available as arXiv:2005.11865.

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