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Nuclear Structure from First Principles in the ⁷⁸Ni Region

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In recent years, the ⁷⁸Ni region has become accessible with advanced many-body methods like Coupled Cluster or the In-Medium Similarity Renormalization Group. I will present a brief overview of the state of the art of these approaches, with an emphasis on the precision that can be achieved for energies and other observables. I will survey results for ground- and excited-state properties of nuclei around ⁷⁸Ni, and discuss how new experimental data can help us refine the next generation of chiral nuclear interactions and observables that are the dominant source of theoretical uncertainty in modern nuclear many-body calculations.