

Abstract Submitted
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Nuclear shell evolution¹ IAN BENTLEY, Saint Mary's College (IN)

— The appearance and disappearance of nuclear shells and sub-shells has been at the forefront of recent nuclear theory and experimental efforts. This work extends a previously introduced method of structural analysis and applies it to protons in an attempt to provide a more complete understanding of shell structure in nuclei. Experimental observables including the mean square charge radius, as well as other spectroscopic and mass related quantities have been analyzed for shell structure features. A preliminary analysis using Nilsson coefficient fits of experimental quantities, such as odd mass spectra and $B(E2)$ values, along isotopic chains will be discussed. The goal of this work is to provide a means of predicting shell structure far from stability.

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