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Study of Beta Delayed Proton Emissions in 20Mg

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The study of delayed emissions in proton-rich nuclei provides valuable new insights into nuclear structure and enables the investigation of open quantum systems. We present a comprehensive analysis of the resonant Gamow states of 20Na, populated via the β^+ decay of 20Mg, with particular focus on the decay widths associated with the proton emission process. Moreover, by employing several mean-field parametrisations, we study the limits of the WKB approximation in describing resonances that are close to the potential barrier and compare the results with those obtained by using Gamow-state methods.

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