

Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

Study of Gamow-Teller transitions with $J=0$ and J_{max} pairing¹

RICARDO GARCIA, University of Puerto Rico, Rio Piedras, LARRY ZAMICK, Rutgers Univ — Allowed Gamow-Teller transitions are sensitive to the interactions which are used. In this single j shell study, we consider the 2 extremes $J=0$ pairing and J_{max} pairing as well as “half.” Also, for comparison, a realistic interaction, MBZE. For ^{43}Sc decay $J=0$ pairing yields a maximum $B(\text{GT})$ for $I=7/2$ to $7/2$ but is zero for $7/2$ to $9/2$ and $7/2$ to $5/2$. This is tied to a selection rule that one cannot simultaneously change reduced isospin and seniority. For ^{46}Ti $I=1$ to $I=0$ there is not monotonic behavior as one goes from J_{max} to $J=0$ pairing, explained by the fact that that there is an isospin crossover of $J=1$ $T=2$ as one goes to the $J=0$ pairing limit. Comparison with experiment is made.

¹RG has received support via the Research Undergraduate Experience program (REU) from the U.S. National Science Foundation through grant PHY-1263280, and thanks the REU Physics program at Rutgers University for their support.

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Date submitted: 26 Jul 2015

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