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Comparing the Random Phase Approximation to Full Configuration-Interaction Calculations of Atomic Structure: Applying Nuclear Techniques to Atomic Problems MICAH SCHUSTER, CALVIN JOHNSON, San Diego State University — We compute the binding energies for helium through neon, comparing the random phase approximation (RPA) against full configuration- interaction diagonalization. RPA gives a reasonable approximation for the full numerical answer and might be useful for efficient determination of basis set parameters.

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