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Delta Function Potential Randomly Placed within an Infinite Square Well JOSH STOFFEL, MELLITA CARAGIU, Ohio Northern University — A simple and elegant equation has been derived for calculating the energy spectrum of a quantum particle encountering a delta function potential arbitrarily placed within an infinite square well. The solutions to this exact equation can be expressed in terms of analytical solutions to a simpler equation, to which correction terms can be added, to any desired precision. Formulas for the first order correction terms are derived, for any value of the energy eigenvalues; distinction is being made between rational versus irrational values for the coordinate of the delta function potential.

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