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Variable Cross Sections Due to Nuclear Vibrations STEWART BREKKE, Northeastern Illinois University — Due to random nuclear vibrations the cross sectional area for inoming particles to a nucleus is a variable. If b = AcosY is the impact parameter in one dimension, then the cross section $\sigma=\pi(\mathrm{A\ cosY})^2$ where A=amplitude of vibration. Therefore, $\sigma=\pi(\mathrm{A})^2$ maximum, $\sigma=\pi(0.707\mathrm{A})^2$ average rms, and $\sigma=0$ minimum values for the variable nuclear cross sections per nucleus.

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