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**Classical Solution for Low Energy Nuclear Reactions w/o Tunneling** STEWART BREKKE[1], Northeastern IIlinois University(former grad student) — Low energy nuclear reactions can be explained classically w/o tunneling using nuclear vibration.This equation also explains the proton proton reaction on the sun classically w/o tunneling. An incoming positive charge approaches a vibrating nucleus. If the amplitudes of vibration are equal in all directions, the position of the particle is $r = [(x + AcosX)^2 + (y + AcosY)^2 + (z + AcosZ)^2]^{1/2}$, then $KE = kQ_1Q_2/r$. If the nuclear reaction takes place contacting the nuclear surface, x=AcosX, y=AcosY and z=AcosZ. Substituting and collecting terms with angle X=Y=Z, $r = A(12cos^2X)^{1/2}$. If $cos(max) = 1 or -1, r = 2A(3)^{1/2}$ with $RMScos = (1/2)^{1/2}$ $r = A(6)^{1/2}$ and if cos(min) = 0,r=0. Therefore, the nuclear barrier height is a variable dependent upon the amplitude of vibration of the target nucleus with KE needed $= kQ_1Q_2/2A(3)^{1/2}$ minimum, KE needed = infinite, maximum and average KE needed = $kQ_1Q_2/A(6)^{1/2}$.

[1]previous paper presented in DNP06

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