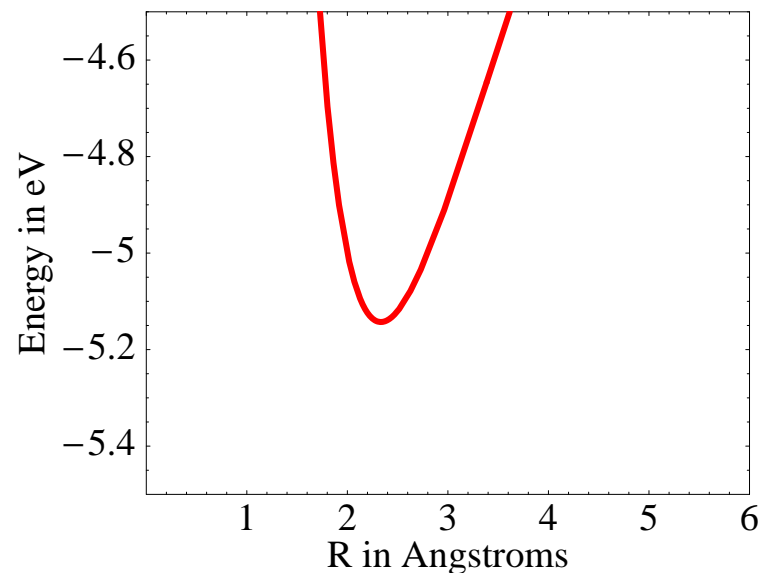


Interatomic Forces

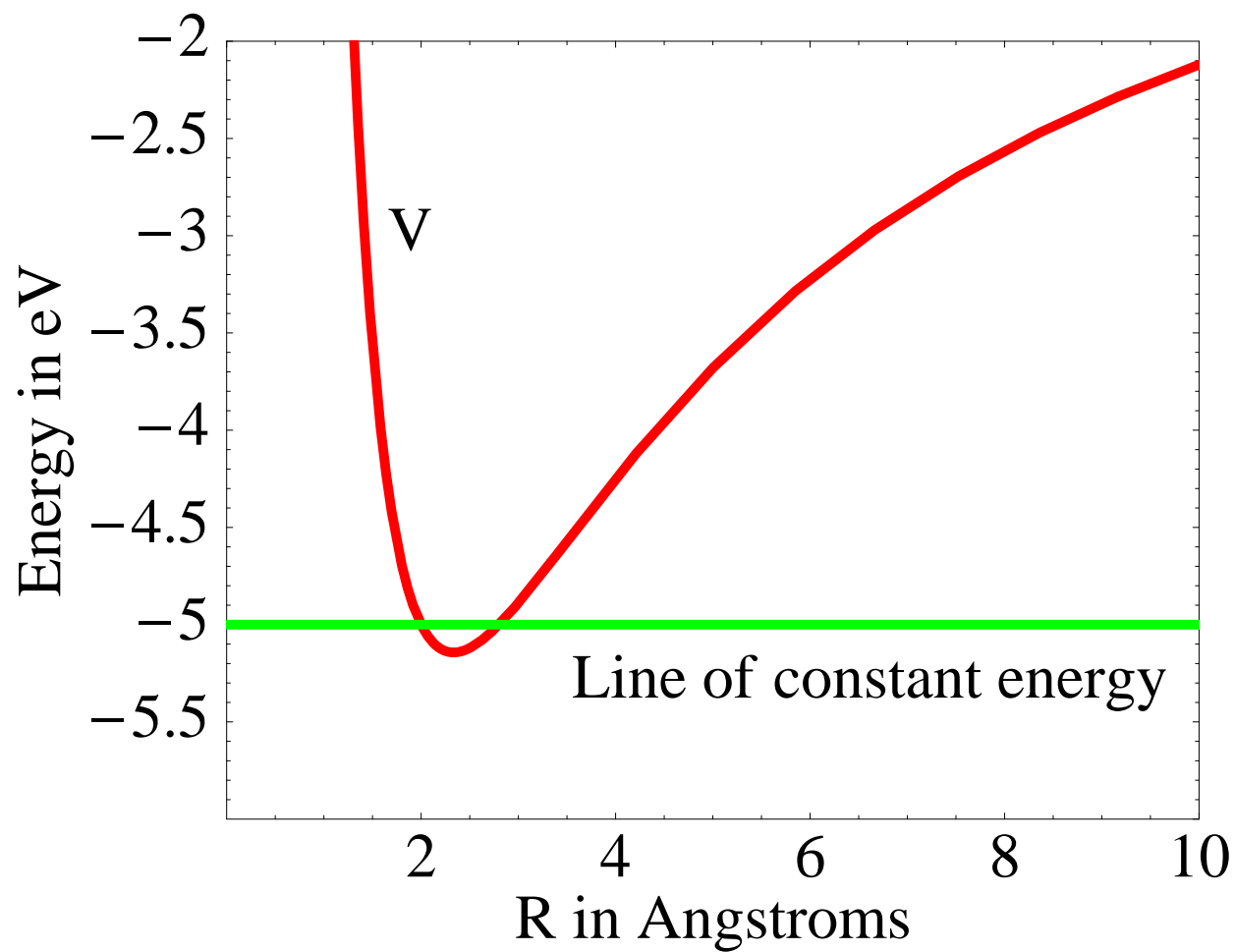
The potential energy between a Na^+ ion and a Cl^- ion is

$$V(r) = -\frac{A}{r} + \frac{B}{r^2}$$

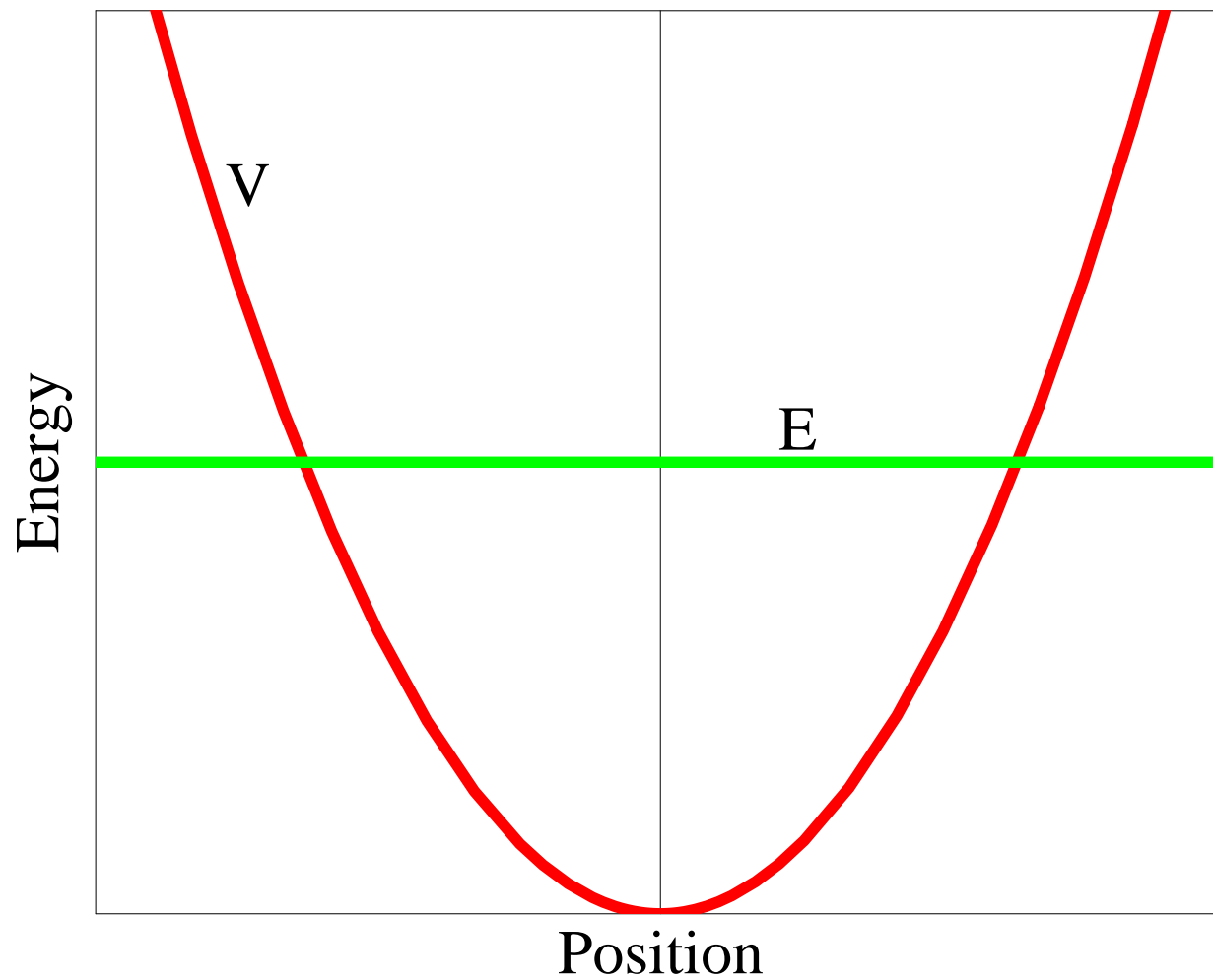
where $A = 24 \text{ eV} \cdot \text{\AA}$ and $B = 28 \text{ eV} \cdot \text{\AA}^2$. Is the attractive part of the potential consistent with the force between two point charges? What is the equation that describes classically the separation of the two ions? At $t = 0$, the separation of the ions is 2.0 \AA and their relative velocity is zero.



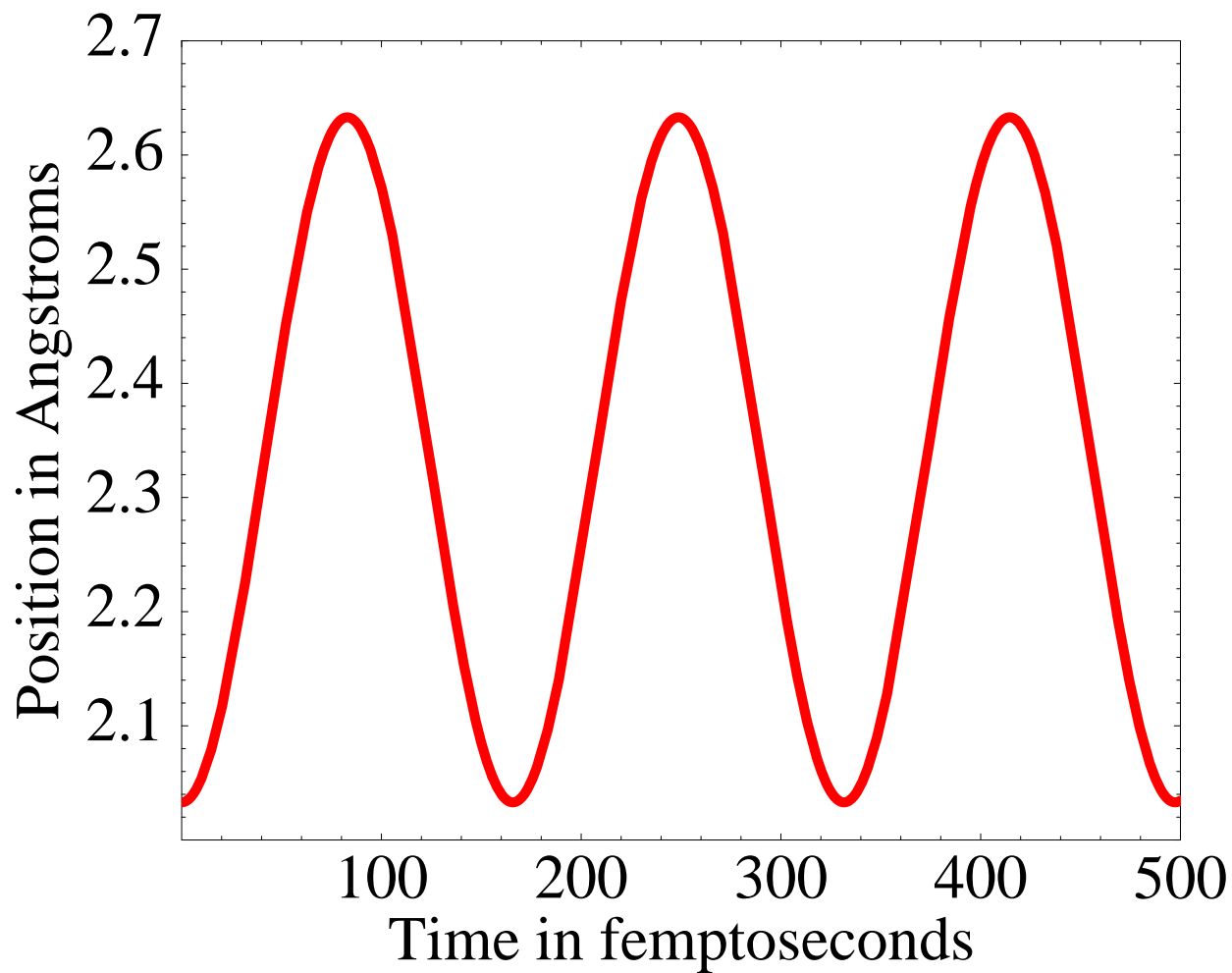
Na⁺ – Cl⁻ Potential



Harmonic Oscillator Potential



Na⁺ – Cl⁻ Separation



Na⁺ – Cl⁻ Potential

