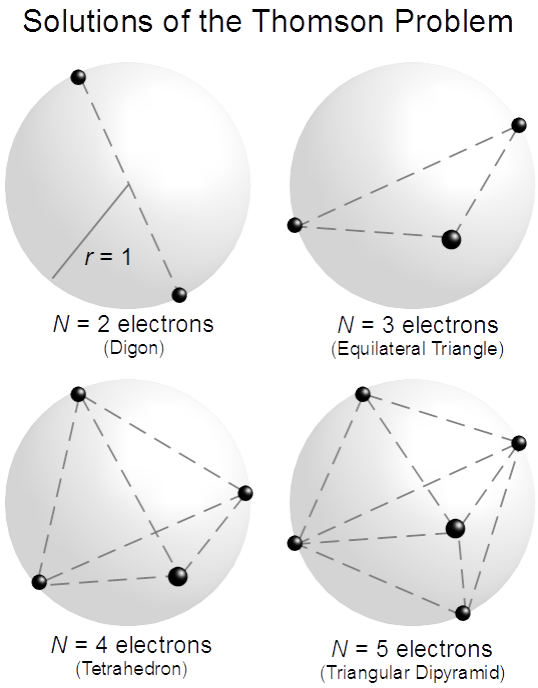
Project #2: A Generalized Thomson Problem

Due on 5/12/2019

The objective of the Thomson problem is to determine the minimum electrostatic potential energy configuration of N (classical) electrons confined on the surface of a unit sphere ($R = 1$) with the electrostatic interaction energy given by the Coulomb potential $V(r) = \frac{q^2}{r}$.

Here we consider a generalized Thomson problem, where the interaction energy is given by the logarithmic potential $V(r) = -\ln r$. Find the optimized configurations of $N \leq 30$ electrons and discuss their differences with the solutions of the original Thomson problem.



https://en.wikipedia.org/wiki/Thomson_problem