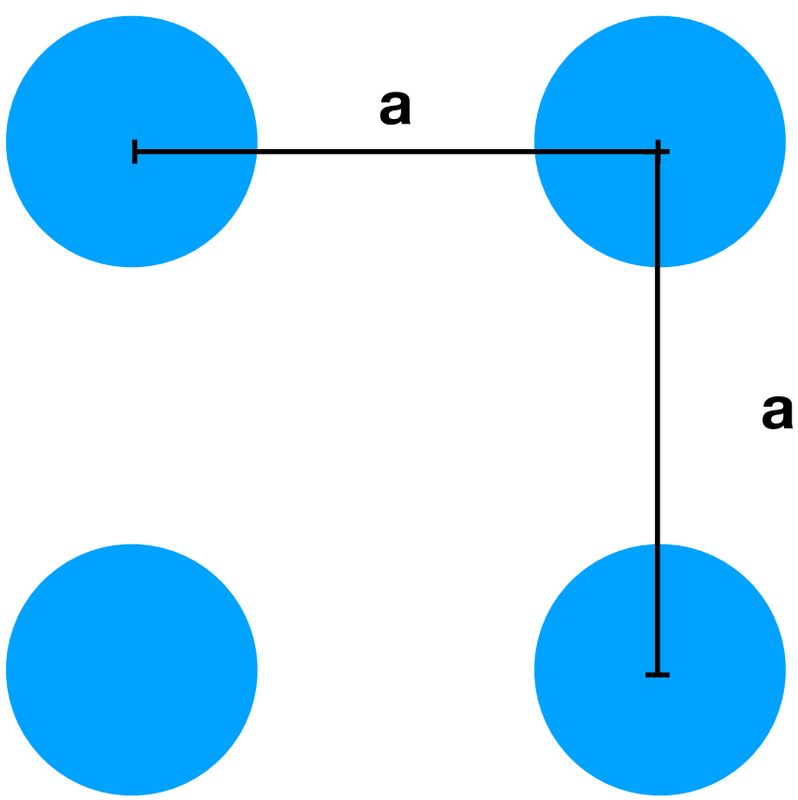
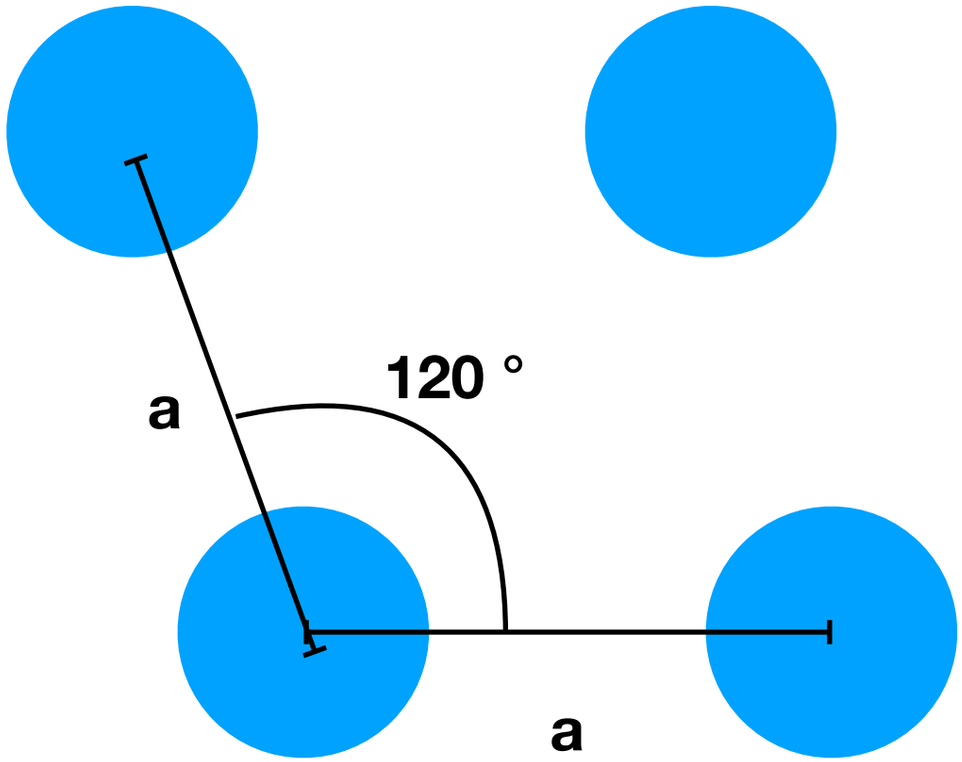
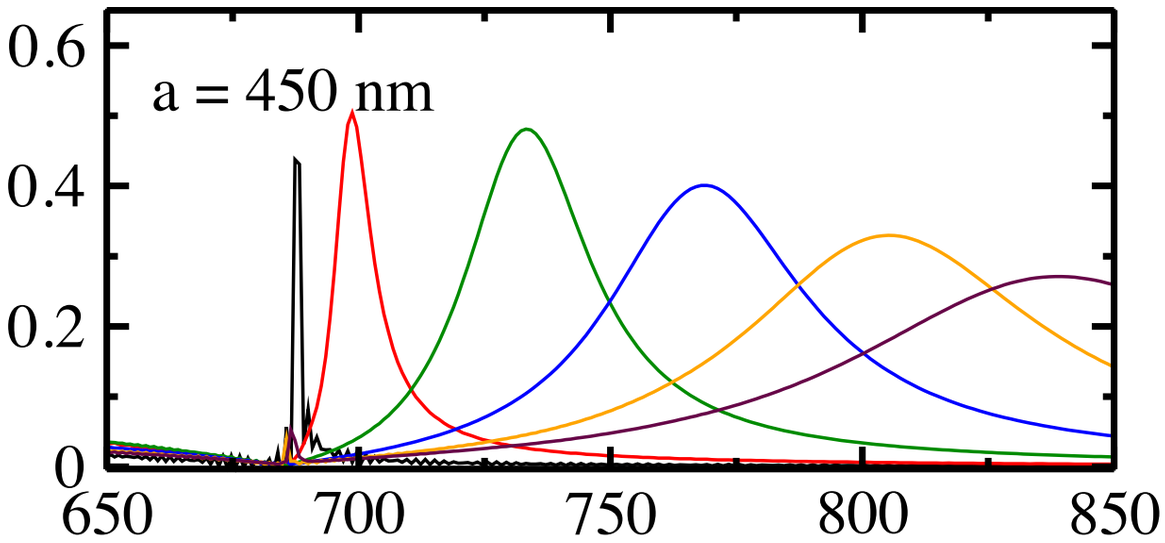
Square Lattice

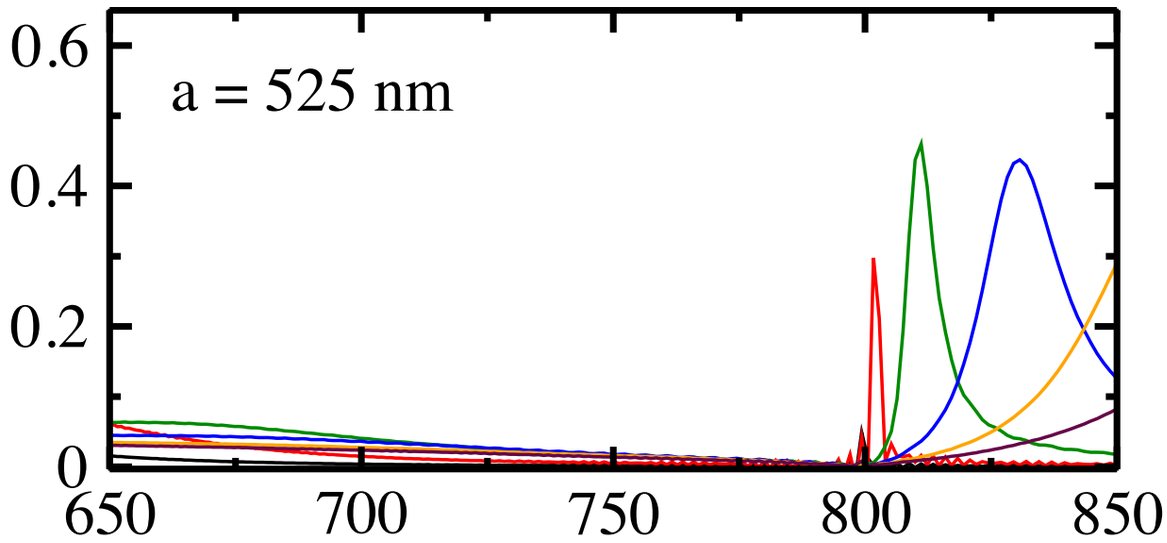


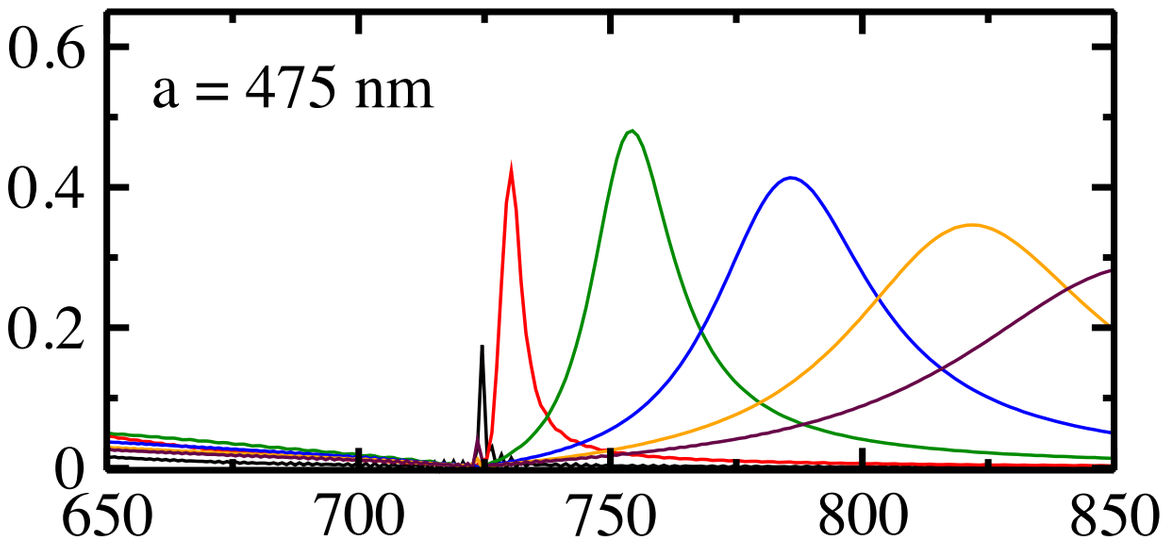
Hexagonal Lattice

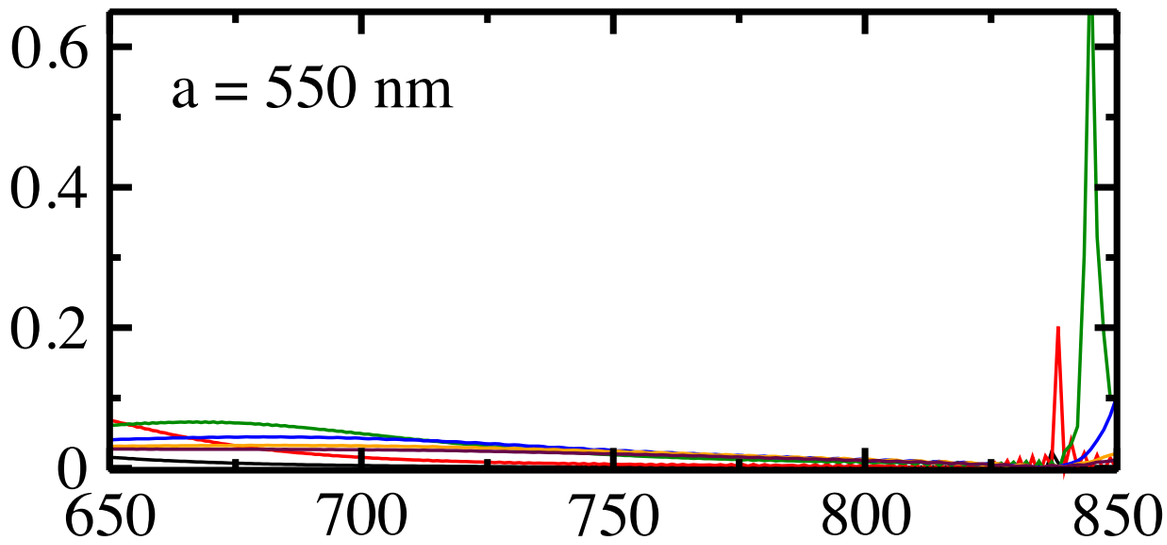


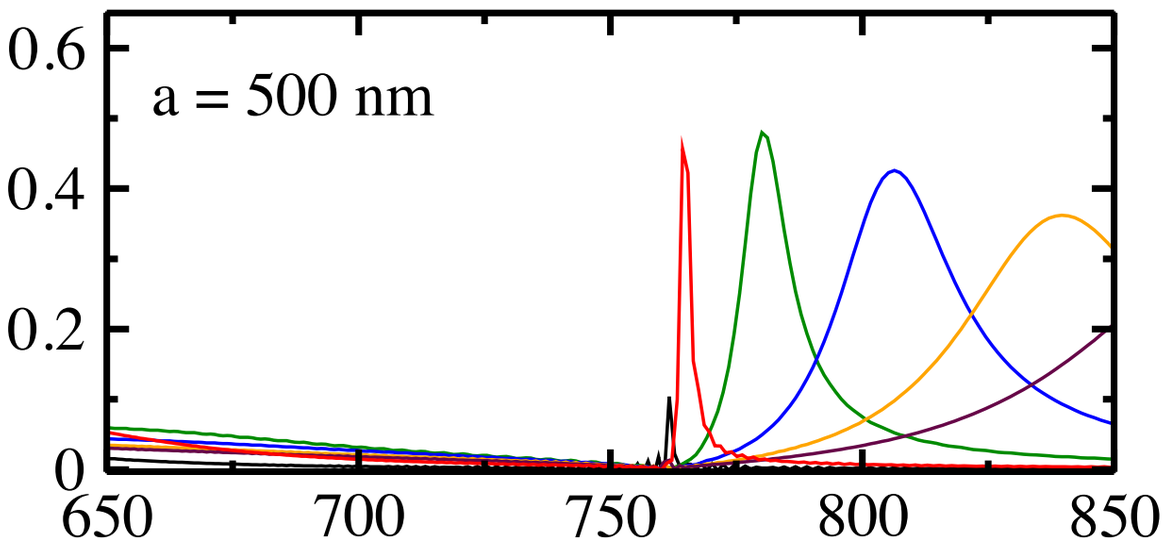
Square Lattice Absorption Relevant for a< 550 nm

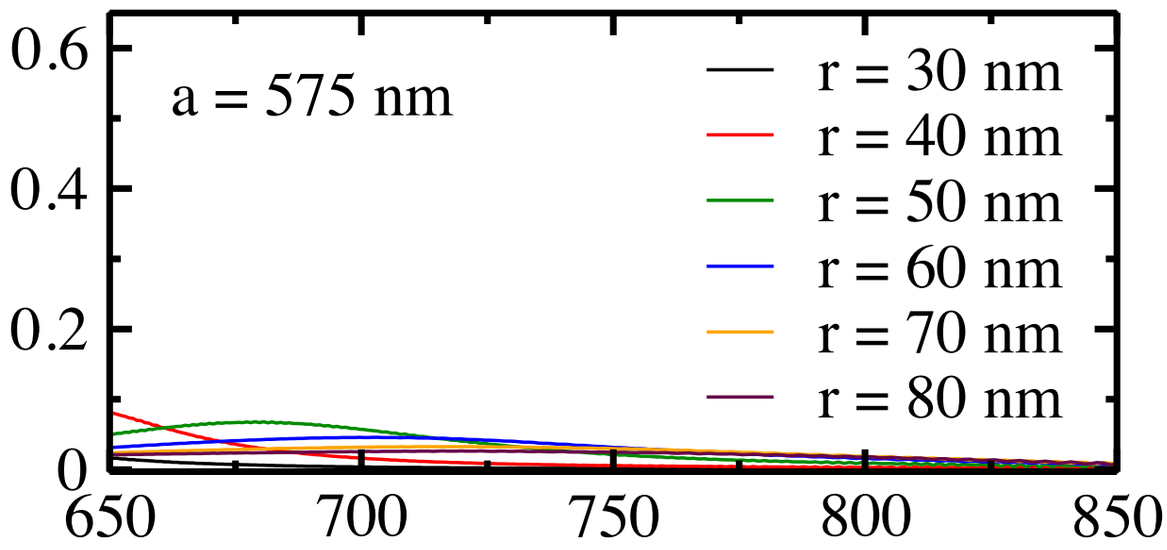












Temperature Change

$\sigma_{abs} =$ **absorption cross section**

$P =$ **power of illumination**

$\bar{\kappa} =$ **average thermal conductivity**

$D =$ **diameter of heated area**

$A =$ **unit cell area of NP lattice**

Confinement

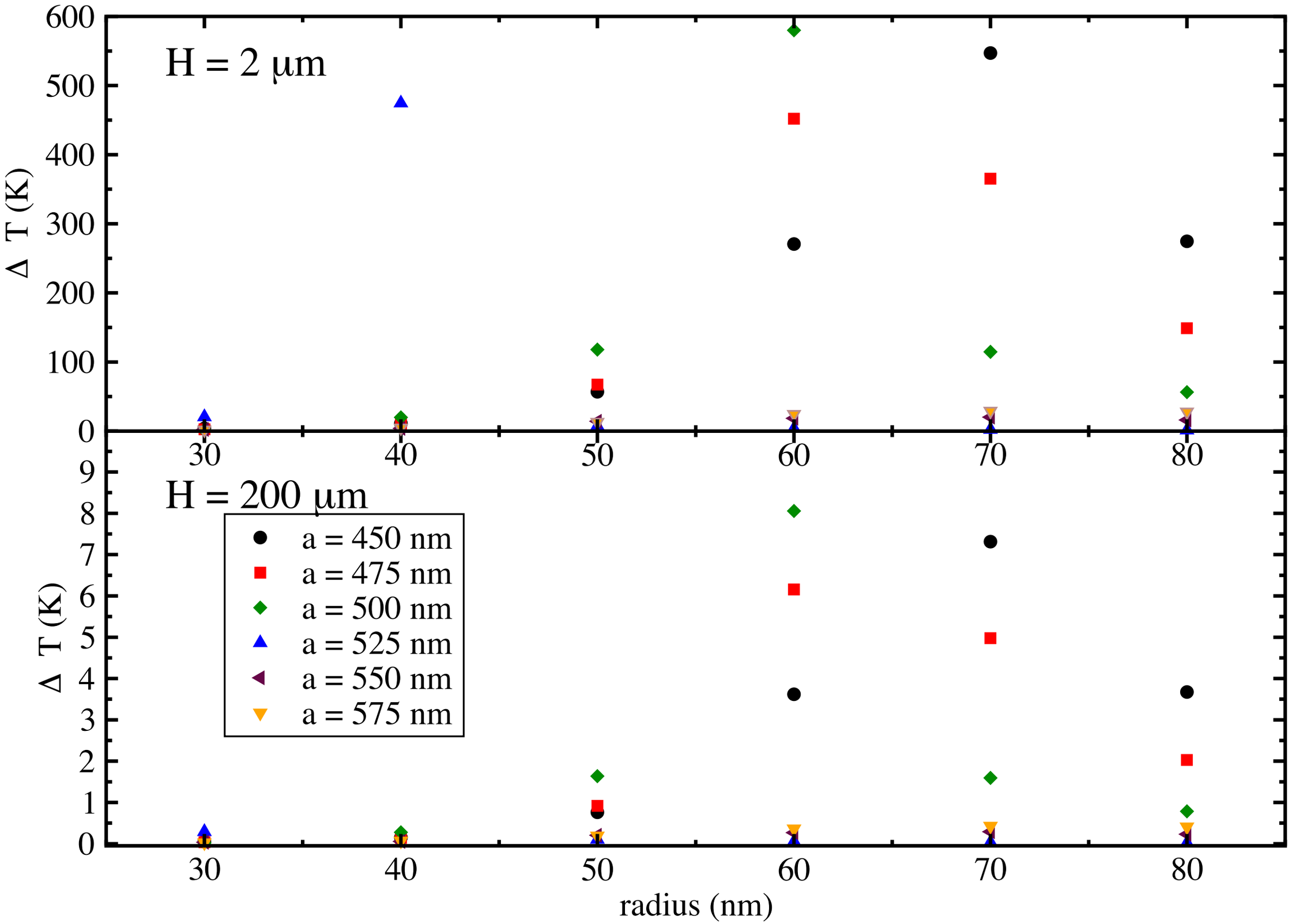
$$\zeta = \frac{p^2}{3LR}$$

$p =$ **interparticle distance**

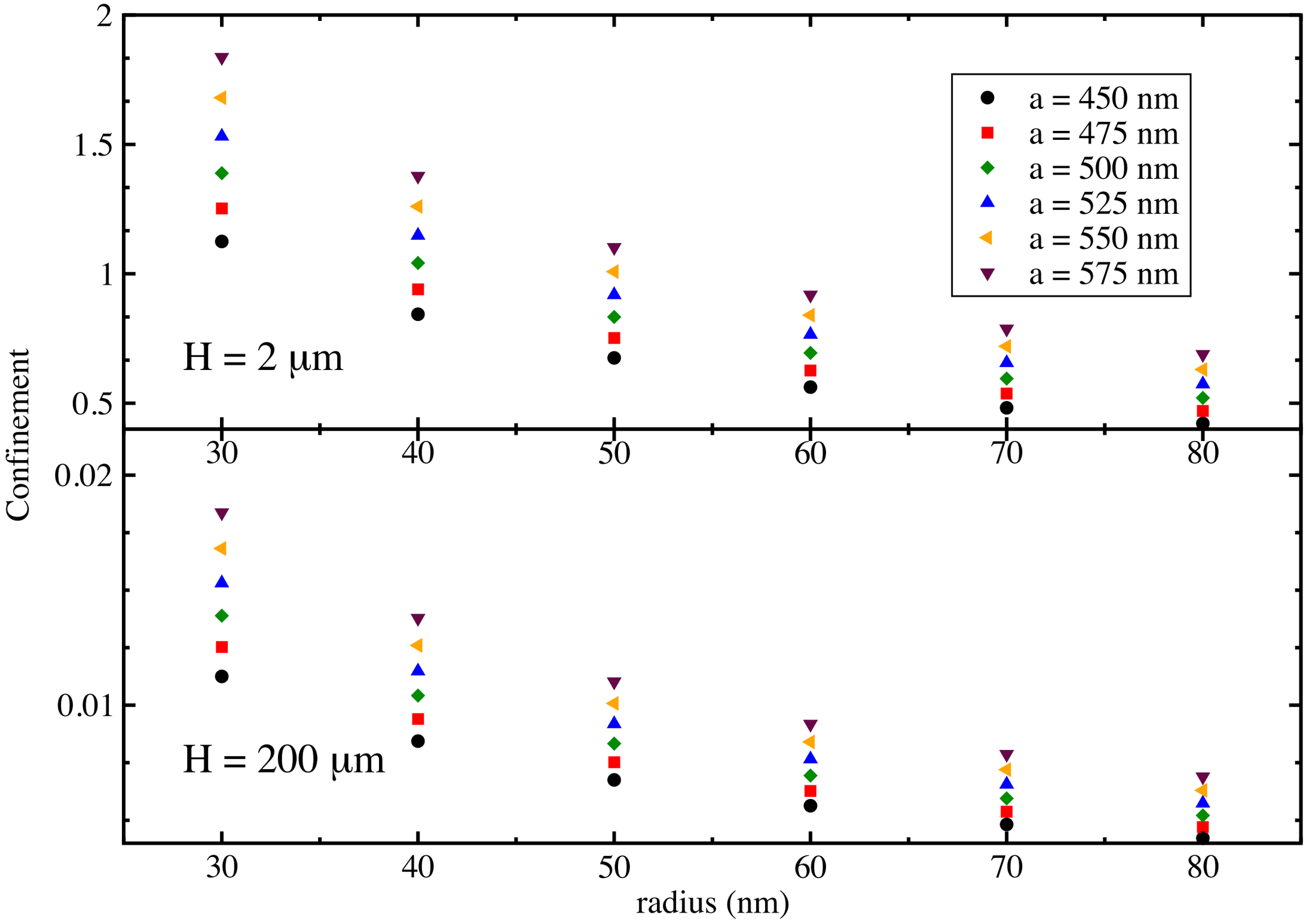
$L =$ **beam diameter**

$R =$ **NP radius**

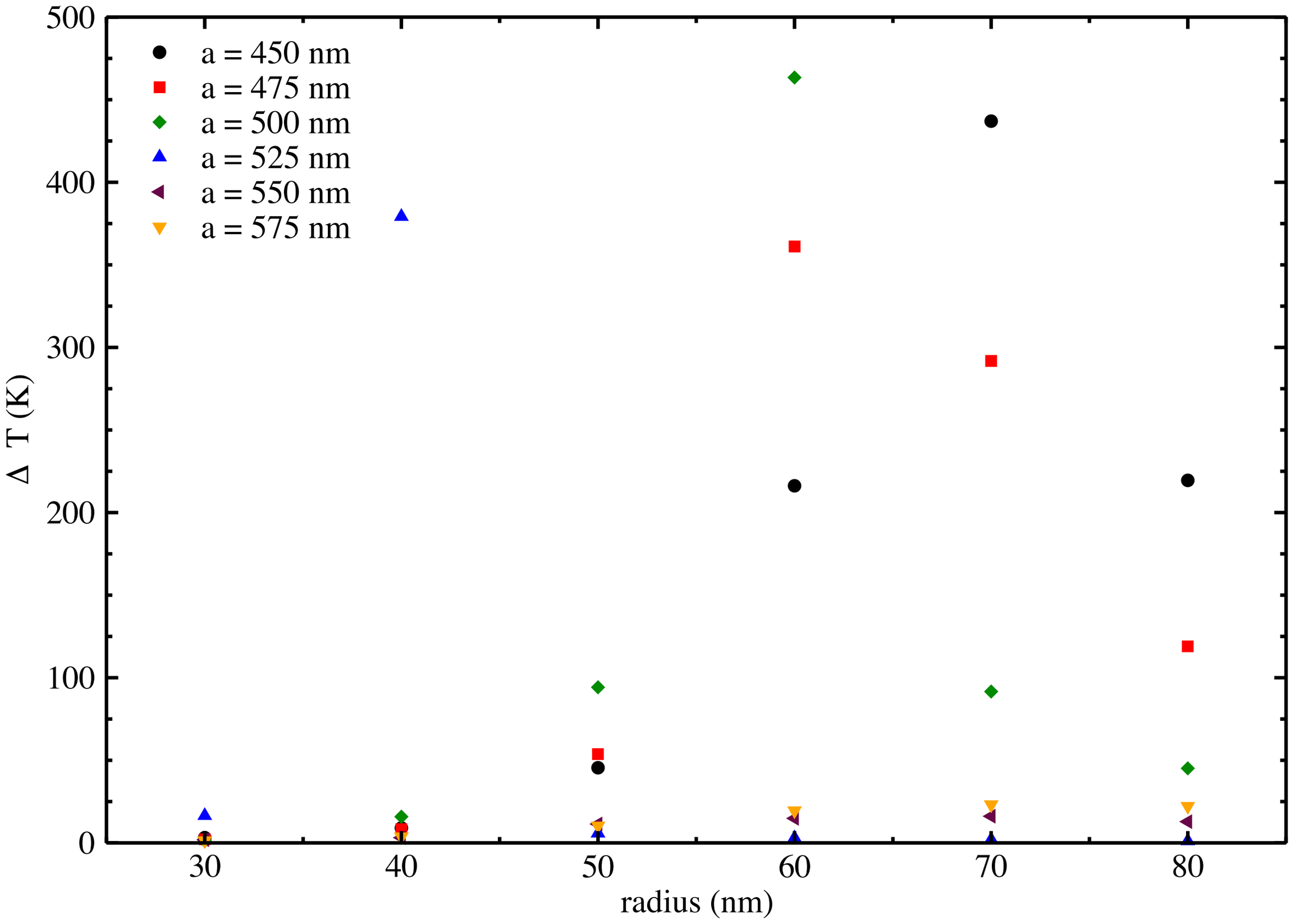
Heated Area Greatly Influences Temperature Change in the Lattice



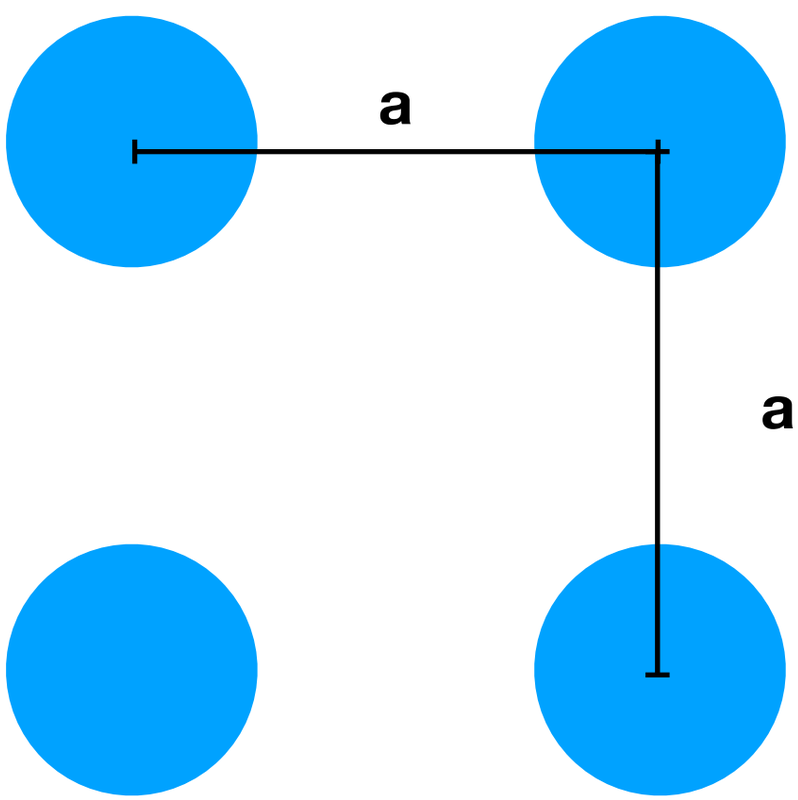
Confinement Occurs with Reduced H



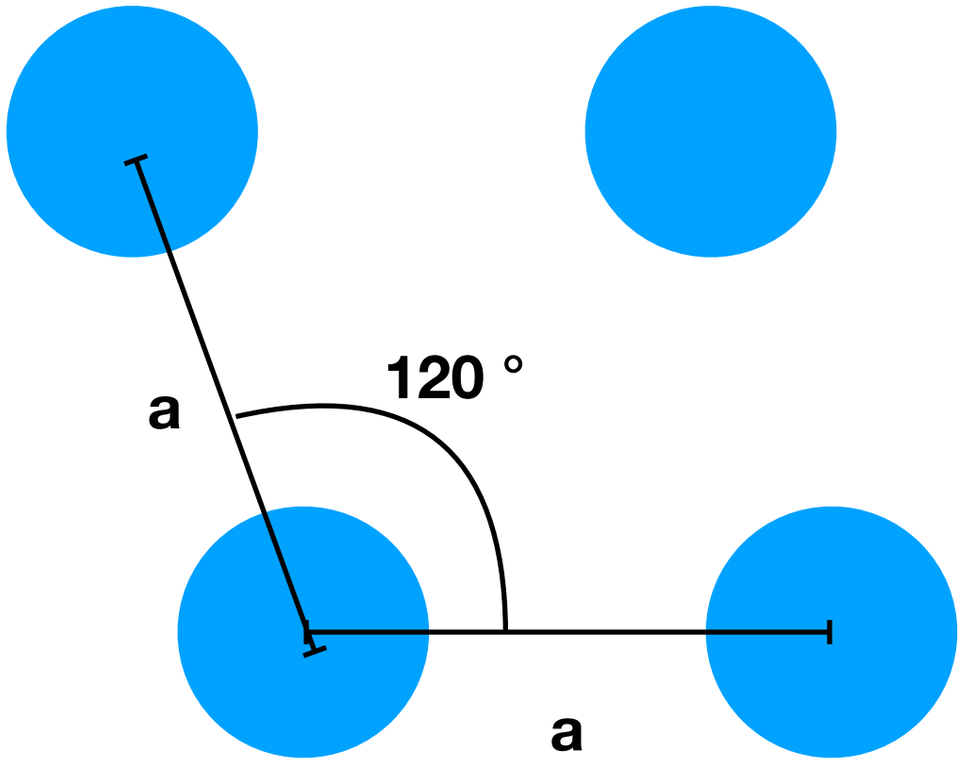
PAM Reduces the Temperature Change



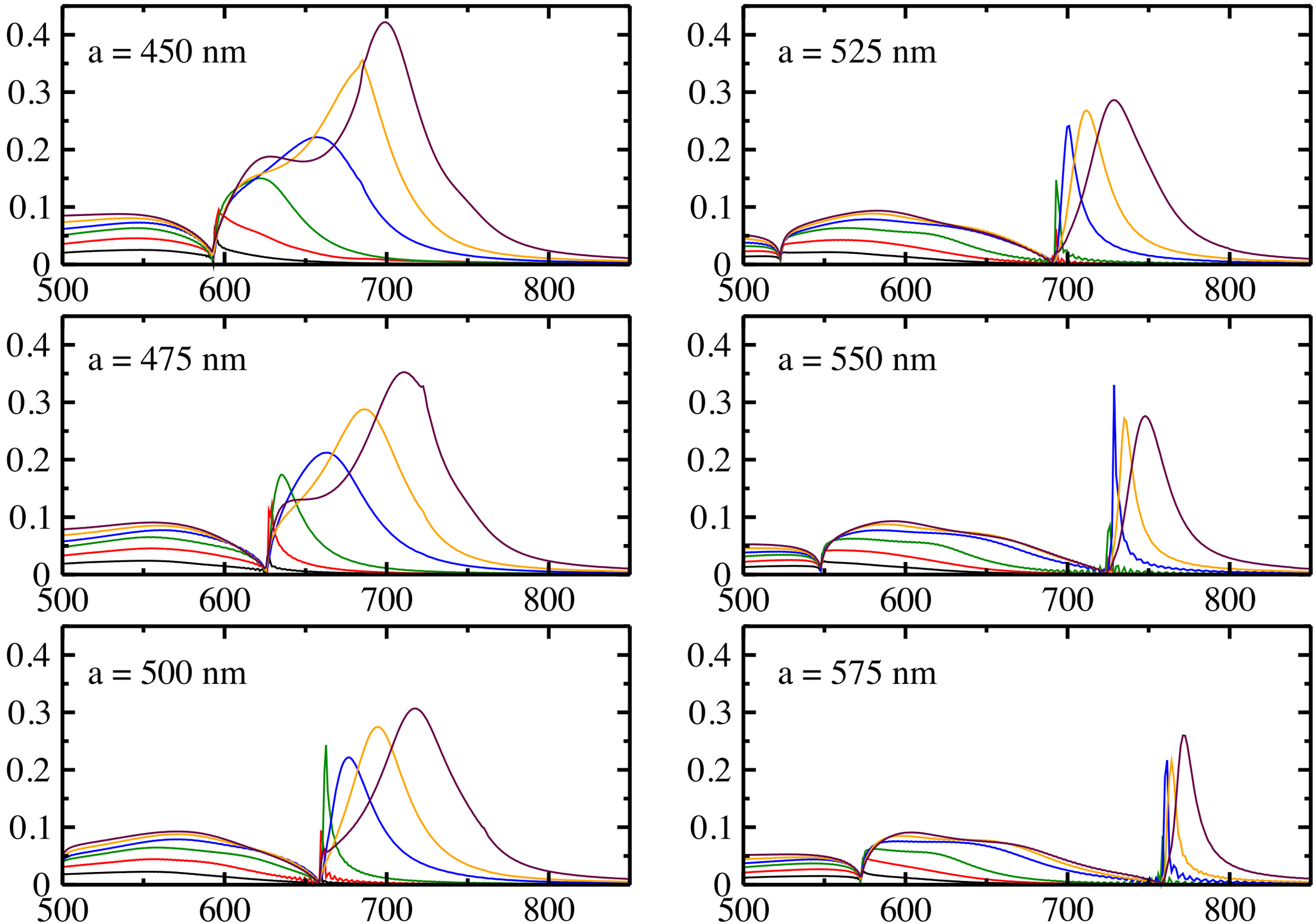
Square Lattice



Hexagonal Lattice



Hexagonal Absorption Also Shifts with Lattice Spacing



PAM Hexagonal Arrays have Lower Temperature Even with small H