1) For a pyramidal quantum dot with vertical absorption (theta=0⁰), design a quantum dot that has the highest absorption energy as close as possible to 1eV.

2) How does the absorption change as a function of incident angle?

3) What happens if the Fermi level is increased to 1eV?

4) What if more states (>20) are included in the design calculation?

5) Extra credit:

    1) Simulate a cubic quantum dot where 5nm=L**x**=L**y** <> L**z**=6nm.
       What happens with the px and py states? What happens to the pz state?
       (hint: some states are degenerate, make sure you search for at least 10 states.)

    2) Simulate a cubic quantum dot where 5nm=L**x**=L**z** <> L**y**=6nm.
       What happens with the px and py states?
       (hint: some states are degenerate, make sure you search for at least 10 states.)

    3) Simulate a cubic quantum dot with 5nm=Lx=Ly=Lz.
       What happens to the px, py and pz states?
       (hint: some states are degenerate, make sure you search for at least 10 states.)

    4) Why are certain absorption lines forbidden and others allowed?

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