

Analytical solutions of Schrödinger's equation for an open spherical semiconductor quantum dot with a shell

Solutions are obtained for the Schrödinger equation for an open semiconductor spherical quantum dot with a shell that is embedded in a medium of another semiconductor. The analytical solutions are exact for the zero orbital quantum number and approximate for $l=1+3$. These results can subsequently be applied to the calculation of the permittivity of a similar system.

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