

## **APPLICATION OF WKB METHOD IN EVALUATION OF ENERGY EIGEN VALUE OF A SYMMETRIC PARABOLIC ALAS QUANTUM WELL STRUCTURE**

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### **ABSTRACT**

WKB an acronym for Wentzel- Kramers – Brillouin, is a method employed for finding approximate solution to linear partial differential equations with spatially varying the coefficient. The method was applied in this work to evaluate the energy eigenvalue of AIAs. In determining this, the harmonic potential which is a suitable potential for the system, having an infinite number of energy level, cum the approximate quantization rule (the well-known Bohr-Sommerfeld quantization condition) are used. The WKB method is then tested by the quantization of the quantum mechanical system of the modified harmonic potential which practically gives the same result as using exact methods. Both numerical and graphical results were obtained, and it was observed that the energy value for AIAs symmetric parabolic quantum well increases as the quantum number (n) increases

**KEYWORDS:** Semiconductors, Wavelength