Fundamentals of Nanoelectronics, Basic Concepts Unit 3

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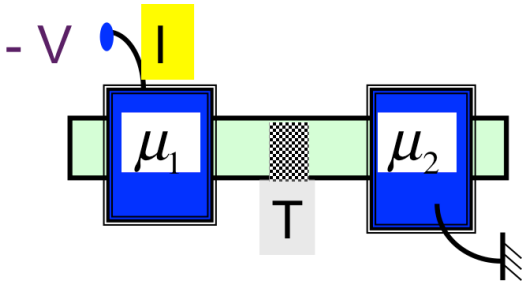
L3.5 Quiz

Answers

3.5. Landauer Formulas

A ballistic channel has a scatterer through which electrons have a transmission probability of T.



3.5a The current I through the structure

is equal to $G_B V$ times

(a) T

(b) $1 - T$

(c) $\frac{T}{1-T}$

(d) $\frac{1-T}{T}$

(e) None of the above

3.5b The potential drop across the scatterer is equal to V times

(a) T

(b) $1 - T$

(c) $\frac{T}{1-T}$

(d) $\frac{1-T}{T}$

(e) None of the above