Problem 1.

Repeat the Lagrangian derivation using time, t, as the parameter instead of distance, s, along the direction of travel.

Solution

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Problem 2.

How would the equation look for a charged particle with stopping power (i.e., energy loss per unit distance) of S(E)?

Solution

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Problem 3.

Fermi developed his age theory by assuming that neutron scattering was a continuous process (instead of happening instantaneously at each collision). Using ξ (average lethargy gain per collision), show that $S(E) = E\xi\sigma_s$.

Solution

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