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Type: **Talk**

Demystifying locality problem in Aharonov Bohm effect

Saturday 5 September 2020 11:25 (25 minutes)

In Aharonov-Bohm effect [1], the electrons have been found to be influenced by the classical potentials in field free region. This led to the notion that in quantum mechanics, potentials are fundamental objects, in spite of gauge freedom. In this talk, we will show that a quantum theory of electrostatic and magnetostatic fields can explain the observed effects: the quanta of the static fields can exist in the regions where the total field is zero and that these quanta influence the electron wave functions. This will put an end to a sixty years old question on the locality in Aharonov-Bohm effect.

[1] Y. Aharonov and D. Bohm, Phys. Rev.115, 485 (1959)

Is this abstract from experiment?

No

Internet talk

Yes

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

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