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Sagnac Interference in Carbon Nanotube Loops

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The Sagnac effect describes, historically, the interference between two counter-propagating coherent light beams that transverse a rotating loop. The same effect can also be realized in Carbon nanotube loops, where instead of rotation, the interference is generated due to a small detuning of the right- and left-moving electron velocities: $2u = v_R - v_L$. The Sagnac interference in Carbon nanotubes is expected to persist even when temperature effects obliterate all other interference signatures (e.g., Fabry-Perot). In this talk I we explore this remarkable interference mode, and discuss the dependence of the Sagnac conductance oscillations on temperature and interactions.