

Abstract Submitted
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Transfer of Momenta from Chiral SPP's onto Electrons MIGUEL RANGEL, None — In recent discovery, it is known that the plasmonic drag effect is due to the absorption of momentum from the surface plasmon polariton [SPP] and its transfer to electronic metal plasma, which leads to current. Similarly, one could expect that absorption of angular momentum of light should lead to circular currents. We believe that the most convenient structure to study this absorption of SPP angular momentum and the corresponding currents is metal nanowires. To find the chiral currents induced by propagation of chiral SPPs in metal nanowires, we will solve the corresponding Maxwell's equations in this structure and using this electromagnetic field distribution, we have found the forces acting on electrons and the resulting currents. After considering the multiple different modes of propagation in a 1D optical wave, we have found the transfer of momentum per unit time from the plasmonic fields onto the electrons in the wire.

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None

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