



The Abdus Salam  
**International Centre  
for Theoretical Physics**



**Conference on Frontiers of Nanoscience  
24 August - 1 September 2015, Trieste, Italy**

## **Current at a Distance and Resonant Transparency in Weyl Semi-Metals**

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### Abstract:

Surface Fermi arcs are the most prominent manifestation of the topological nature of Weyl semi-metals. In the presence of a static magnetic field oriented perpendicular to the sample surface, their existence leads to unique inter-surface cyclotron orbits. We propose two experiments which directly probe the Fermi arcs: a magnetic field dependent non-local DC voltage and sharp resonances in the transmission of electromagnetic waves at frequencies controlled by the field. We show that these experiments do not rely on quantum mechanical phase coherence, which renders them far more robust and experimentally accessible than quantum effects.

*Work carried out with Yuval Baum, Erez Berg and Sid Parameswaran.*