

# The SUMO Speaker Series for Undergraduates

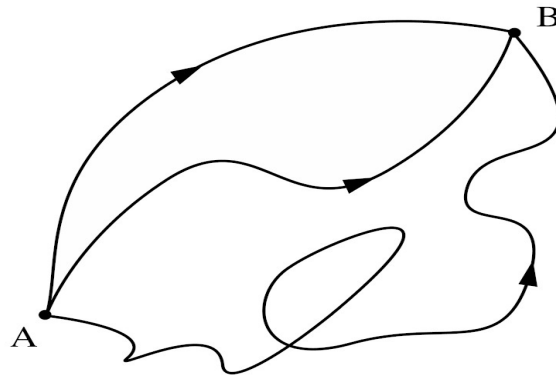
*(Pizza Provided)*

Wednesday, November 10<sup>th</sup>

4:30-5:20, room 380C

## Stationary Phase and the Semiclassical Limit

Nick Haber



### ABSTRACT:

In classical physics, particles move along trajectories, uniquely determined by initial conditions and Newton's laws. In quantum physics, this is no longer the case. The path integral formulation of quantum mechanics instead determines probabilities by summing over all possible trajectories. Further, the formulation gives an intuitive picture of how quantum physics becomes classical in a macroscopic setting. This has proven very difficult to make mathematically precise, but the intuition relies on an analogy to a simpler setting, in which the method of stationary phase can be applied. In this talk I will describe this method, along with a little of the physics.

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