

SBU DEPARTMENT OF MATHEMATICS &
INSTITUTE FOR MATHEMATICAL SCIENCES

Math Club

Anthony Phillips

Stony Brook

*Geometry of polyhedral surfaces,
gravitational lensing and the
Aharonov-Bohm experiment.*

A polyhedral surface is flat except at the vertices. Parallel lines passing on either side of a vertex are deflected towards or away from each other proportionally to the curvature (2π minus sum of face angles) at the vertex. Similarly a massive galaxy will deflect light rays ("straight lines" in space) passing nearby; the effect is called gravitational lensing. The bundle of phases associates to each point in space-time a circle; analogously to the circle of directions at each point of a surface. Electrons, originally in phase, passing on either side of a shielded column of magnetic flux, end up out of phase by an amount proportional to the flux, even though there is no electric or magnetic field along their paths.

Wednesday - September 11, 2013
Room Math Tower P-131 1:00 pm