

BI-CO MATHEMATICS COLLOQUIUM

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"The Rim Hook Rule"

Monday, December 2, 2013

Talk at 4:00 – H109

Tea at 3:30 – KINSC Math Lounge, H208

Abstract:

This talk will be about two gadgets which measure the amount of overlap between two subspaces. One, cohomology, asks how much two subspaces intersect. Another, quantum cohomology, allows teleportation, in the sense that it counts two spaces as overlapping with a third if they are connected by a curve, even if they don't overlap. In the case of quantum cohomology we also keep track of some data about the curve, called degree. Curves that are single points (constant functions) are the degree 0 curves, and exactly answer if the two spaces overlap in the third. This means that quantum cohomology is strictly better than cohomology. We will examine how we can recover the quantum cohomology from the regular cohomology of a slightly larger space. While this talk is a theorem about geometry, you should expect the real details to be as much about linear algebra and combinatorics as anything else.

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