

MATH and PIZZA

Untangling the Double Twist



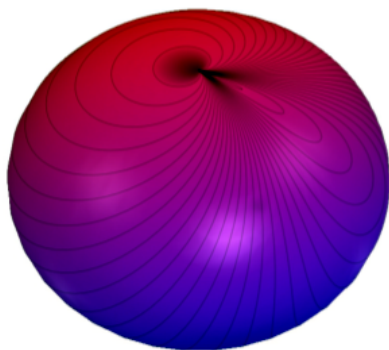
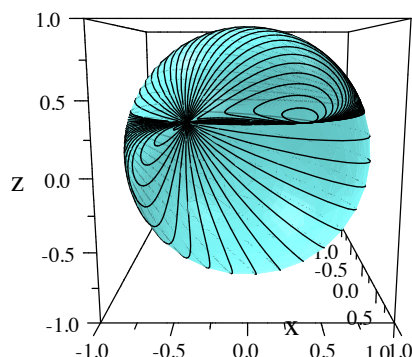
Speaker

Dr. Dan Ramras

Indiana University-Purdue University Indianapolis

Sponsored by

UK Department of Mathematics



*All students
with an interest in Mathematics
are welcome to attend !!*

Date: Thursday, October 23, 2014

Time: 4:00pm-5:00pm

Room: 334, Classroom Building

Abstract:

The double twist refers to 720 degree rotation of an object around a fixed axis. This loop of rotations can be continuously deformed, through loops, to the trivial, stationary loop. Physical demonstrations of this "untangling" property go by the names of the Dirac Belt Trick, the Dirac String Trick, and the Waiter Trick (also known as the Indonesian Candle Dance). This talk will describe and animate a particularly simple and explicit untangling. We'll go on to discuss the behavior of arbitrary untanglings of the double twist and their action on vectors in R^3 . Along the way, we'll meet fundamental groups, quaternions, and projective spaces.

UK Math Club

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