



YMC 2006



Young Mathematicians Conference 2006

August 4th-6th at The Ohio State University.

COLORABILITY OF ALTERNATING KNOTS

Kevin R Meek & Pablo R Solis

CSU, Chico [Mentor: Thomas Mattman]

Abstract of Report Talk: P-colorability is a useful tool in determining whether or not two knots are equivalent. Our goal with this talk is to introduce the audience to the concepts necessary for understanding the Kauffman-Harary Conjecture, which deals with colorings where no two strands are assigned the same “color”. Towards this end, we will give a brief introduction to knots, alternating knots, and p-colorability. We will discuss some ideas and techniques that are useful in addressing questions about p-colorability, such as the crossing matrix of a knot, the determinant of a knot, and a matrix which can be used to talk about p-colorability of an iterative braid. We will then discuss the Turk’s Head Knots as an example of alternating knots and outline a proof of the Kauffman-Harary conjecture for all Turk’s Heads of the form $THK(3, n, \epsilon)$ where n is greater than 2. [MK11183359]

[Joint work with Nick Dowdall.]

Contact: xboogerx@hotmail.com & psolis@mit.edu

Received: July 21, 2006