



YMC 2006



Young Mathematicians Conference 2006

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

A NEW CONDITION FOR INTRINSICALLY KNOTTED BIPARTITE GRAPHS

Ryan L Hake & Chloe M Collins

CSU Chico [Mentor: Thomas Mattman]

Abstract of Report Talk: Over the summer we have been trying to prove a conjecture concerning intrinsic knotting on bipartite graphs. Our original conjecture is given a bipartite graph on n vertices (when $n \geq 7$) if the number of edges is greater than or equal to $4n - 15$ the graph is intrinsically knotted. Although we have been unable to come up with a complete proof of this conjecture we did discover a new condition for intrinsic knotting on bipartite graphs. We have shown that a bipartite graph $K_{a,n+a}$ that is $(a + n - 3)$ edge-deficient is intrinsically knotted for $a \geq 5$ and $n \geq 0$. [HR13135652]

[Joint work with Cara Petonic, Laura Sardagna]

Contact: ryanhake@sbcglobal.net & chloecollins@comcast.net

Received: July 19, 2006