1020-57-27 **S G Whittington*** (swhittin@chem.utoronto.ca), Department of Chemistry, University of Toronto, Toronto, Ontario M5S 3H6, Canada. *Counting almost unknotted embeddings of graphs in the cubic lattice.* Preliminary report.

Let G be a planar graph with no cut edges. When G is embedded in three dimensional space it can be knotted (ie not ambient isotopic to a planar embedding). If the embedding is knotted but no cycle is knotted we say that the embedding is *almost unknotted*. We show that when such graphs are embedded in the simple cubic lattice the exponential growth rates for the numbers of unknotted and almost unknotted embeddings (as the number of edges increases) are identical. Moreover, both classes of embeddings are exponentially rare in the set of all embeddings of G. Similar results can be proved for uniform embeddings. One can formulate similar questions in higher dimensions and some partial results will be presented for the higher dimensional case. This is joint work with Neal Madras and De Witt Sumners. (Received July 22, 2006)