**Meeting:** 1002, Pittsburgh, Pennsylvania, SS 7A, Special Session on Knots and Macromolecules

1002-54-143 **Alessandro Flammini** (aflammin@indiana.edu), School of Informatics, Indiana University, 901 East Tenth st., Bloomington, IN IN 47408, and **Andrzej Stasiak*** (Andrzej.Stasiak@lau.unil.ch), Laboratoire d'Analyse Ultrastructurale, Btiment de Biologie, Universit de Lausanne, 1022 Lausanne, Switzerland. *Periodic table of knots.* Preliminary report.

We propose a natural classification of knots based on the minimal crossing number of a given knot and the writhe of its ideal geometric configuration. This classification naturally leads to a "periodic table" of knots where the knots redistributed into individual cells of the table have the same cumulative number of torus and twist crossings, respectively. The table allows telling which knots can't be converted into each other by one segment-segment passage. The table helps to grasp the "spatial" organization of the overall knots' space. (Received September 13, 2004)