1060-20-184   **Alex D Myasnikov***, Department of Mathematical Sciences, Stevens Institute of Technology, Castle Point on Hudson, Hoboken, NJ. *A computational approach to the Andrews-Curtis Conjecture.*

The famous Andrews-Curtis conjecture is one of the outstanding open problems in low-dimensional topology and group theory. Informally, it states that every finite balanced presentation of the trivial group can be reduced to the standard presentation by a finite sequence of so-called elementary Andrews-Curtis transformations.

There was a noticeable research activity in this area in recent years, including efforts to resolve problems using computational methods. Despite significant attention the progress in resolving questions about Andrews-Curtis equivalence classes has been very limited.

We propose a new computational approach based on recent results about Andrews-Curtis graphs in finite groups. (Received March 29, 2010)