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Chris Altomare (altomare@math.ohio-state.edu), **Neil Robertson*** (robertso@math.ohio-state.edu) and **Zixia Song** (zsong@mail.ucf.edu). *On the S. B. Rao well-quasi-order conjecture.*

A well-quasi-order is a reflexive and transitive relation in which all strictly descending chains and all anti-chains are finite. Only severely restricted classes of graphs are well-quasi-ordered by induced subgraph inclusion or even subgraph inclusion, given that simple circuits form an infinite anti-chain in these cases. In 1980, S. B. Rao conjectured that a natural partial order defined on valency sequences of finite simple graphs which weakens induced subgraph inclusion is a well-quasi-order. Explicitly, the relation $D \leq D'$ holds when graphs G, G' exist, with valency sequences D, D' , respectively, such that G is induced in G' . This talk surveys work done with Zixia Song and Chris Altomare in support of this conjecture. (Received February 06, 2008)