

**Bounds for Topological Indices of Molecular Graphs**  
**Dr. Sanju Vaidya, Dr. Geetha Surendran, Mercy College, NY**

In the last twenty years, many scientists used Graph theory to develop mathematical models for analyzing structures and properties of various chemical compounds. In 1947 Harry Weiner introduced a topological index related to molecular branching. Now there are more than 100 topological indices for molecular graphs. In this paper, we will establish bounds for various topological indices such as First Zagreb Index, Estrada Index, and certain indices based on eccentricities of vertices. .Additionally, we will establish formulas of these indices for molecular graphs of certain chemical compounds such as cycloalkanes.

Key words: Molecular graphs, Topological indices, eccentricity