The Monster Group and its Order

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Abstract:

I will present joint work with Martin Seysen in which we employ his Python package {\em mmgroup} to determine the order of the Monster group. Our method relies on elementary counting arguments supplemented by detailed knowledge of the Leech lattice. In particular, the only sporadic groups whose orders we assume known are the Conway groups \$Co_1\$ and \$Co_2\$. As a byproduct, we also deduce the order of the Baby Monster. Although each case can be verified by hand in principle, the 310 cases to consider makes a manual verification impractical.