1014-57-1095   **Qi Chen** (`qichen@math.ohio-state.edu`) and **Thomas Kerler***
(`kerler@math.ohio-state.edu`), Department of Mathematics, The Ohio State University,
Columbus, OH 43210. *Reducibility of Quantum-SU(n) Representations of Mapping Class
Groups.* Preliminary report.

In 1998 Roberts proved that the representations of the mapping class groups obtained from quantum-PSU(2) at an r-th root of unity are irreducible for every genus g. This fails to be true for representations obtained from higher rank quantum-PSU(n) with n>2.

Specifically, we prove for g=1 that the SL(2,Z)-representation obtained from quantum-PSU(3) for prime r commutes with the action of a dihedral group, and decomposes accordingly into non-trivial direct summands. One of the summands turns out to be isomorphic to the SL(2,Z)-representation obtained from quantum-PSU(2).

We will briefly mention the significance of this result for finding integral bases for higher rank TQFT's as well as the possibility of mutation violations. (Received September 27, 2005)