

1081-51-291      **Ailsa M Keating\*** ([ailsa@math.mit.edu](mailto:ailsa@math.mit.edu)), M.I.T. Mathematics Department, 2-588, 77 Mass. Ave., Cambridge, MA 02139. *Dehn twists and free subgroups of the symplectic mapping class group.*

Given two Lagrangian spheres in an exact symplectic manifold, we present conditions under which the Dehn twists about them generate a free non-abelian subgroup of the symplectic mapping class group. This extends a result of Ishida for Riemann surfaces. The proof generalises the categorical version of Seidel's long exact sequence to arbitrary powers of a fixed Dehn twist. (Received February 13, 2012)