

1111-57-760

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In this talk we first give the algebraic braid equivalence for knots and links in a c.c.o. 3-manifold obtained by rational surgery along a framed link in  $S^3$ , in terms of the mixed braid groups  $B_{m,n}$  with  $m$  identity strands, and we provide concrete formulæ of the braid equivalences in the lens spaces  $L(p, q)$ . Then, we describe the braid approach to the Homflypt skein module of the lens spaces  $L(p, 1)$ . This is obtained by giving first a new basis for the Homflypt skein module of the solid torus, compatible with the handle slide moves, via the generalized Hecke algebras of type B,  $H_{1,n}$ ; then, by solving an infinite system of handle sliding equations, by means of a Markov trace defined on the algebras  $H_{1,n}$ . Finally, for  $m = 2$  we construct the quotient algebra  $H_{2,n}$  of the mixed braid group  $B_{2,n}$ , over the quadratic relation of the classical Hecke algebra for the braiding generators. The aim of this work is to provide the algebraic tools for computing Homflypt skein modules of c.c.o. 3-manifolds. (Received February 10, 2015)