

Algebraic structure as link invariants

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Many algebraic structures can be associated to a classical link in the 3-sphere and more generally in a 3-manifold: the fundamental group, the fundamental quandle, the fundamental rack... In the first part of the talk we briefly review the construction of these invariants and some properties of them in the case of the 3-sphere and its cyclic quotients, that is lens spaces $L(p, q)$. Then, for the case of lens spaces $L(p, 1)$, we describe the construction of a new invariant, the virtual quandle invariant and describe some of its properties.