

# L-invariants for representations of knot groups

*Ryoto Tange*

Waseda University

We introduce the adjoint L-invariant for a representation of a knot group, which may be seen as a topological analogue of the Greenberg-Hida L-invariant for the adjoint Galois representation. We then explain some relations of our L-invariant with the Porti torsion function and the cusp shape for the case of the lift of the holonomy representation attached to the complete hyperbolic structure on the hyperbolic knot complement. These relations may be regarded as topological analogues of the relations of the Greenberg-Hida L-invariant with the adjoint Selmer module and the adjoint p-adic L-function.