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**Takefumi Nosaka\*** (`nosaka.t.aa@m.titech.ac.jp`), Department of Mathematics Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro-ku, Tokyo, Tokyo 152-8551, Japan. *Quandle homology and relative group homology of degree 3.*

Inoue and Kabaya constructed a chain map from the quandle complex to Hochschild relative group complex, and gave a relation to the complex volume of hyperbolic links. The speaker has studied the chain map of degree 3, and showed the induced map on homology is isomorphic in some cases. In this talk, the speaker give a survey of recent works on the chain map, and some topological interpretation of some topological cocycle invariants in terms of fundamental homology 3-classes. (Received August 31, 2018)