

1017-16-83 **Akira Masuoka*** (akira@math.tsukuba.ac.jp), 305-8571 Tsukuba, Ibaraki, Japan. *Hopf algebras in the Picard-Vessiot theory*. Preliminary report.

M. Takeuchi (1989) gave a beautiful Hopf-algebraic formalization of the Picard-Vessiot theory for differential equations. The speaker together with K. Amano (2005) extended Takeuchi's results so that the Picard-Vessiot theory for difference equations is involved as well. The basic idea of this approach will be explained, with emphasis on its relation with Hopf-Galois theory. (Received February 14, 2006)