1146-11-162 **Paul J Truman*** (`p.j.truman@keele.ac.uk`), School of Computing and Mathematics, Keele University, Newcastle under Lyme, ST55BG, United Kingdom. *Hopf-Galois module structure of tamely ramified radical extensions of prime degree.*

Let K be a number field and let L/K be a tamely ramified radical extension of prime degree p. If K contains a primitive p^{th} root of unity then L/K is a cyclic Kummer extension; in this case the group algebra $K[G]$ (with $G = \text{Gal}(L/K)$) gives the unique Hopf-Galois structure on L/K, the ring of algebraic integers $\mathfrak{O}_L$ is locally free over $\mathfrak{O}_K[G]$ by Noether's theorem, and Gómez Ayala has determined a criterion for $\mathfrak{O}_L$ to be a free $\mathfrak{O}_K[G]$-module. If K does not contain a primitive p^{th} root of unity then L/K is a separable, but non-normal, extension, which again admits a unique Hopf-Galois structure. Under the assumption that p is unramified in K, we show that $\mathfrak{O}_L$ is locally free over its associated order in this Hopf-Galois structure and determine a criterion for it to be free. We find that the conditions that appear in this criterion are identical to those appearing in Gómez Ayala's criterion for the normal case. (Received January 19, 2019)