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On the Metabelian Local Artin Map I: Galois Conjugation Law

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Abstract: It is proved that, for a (henselian) local field K and for a fixed Lubin-Tate splitting ϕ over K, the metabelian local Artin map $(?, K)_\phi : B(K, \phi) \tilde{\rightarrow} \mathrm{Gal}\,(K^{(ab)^2} / K)$ satisfies the Galois conjugation law $(\tilde{\sigma}^+(\alpha), \sigma\,(K))_{\tilde{\sigma}\phi\tilde{\sigma}^{-1}} = \tilde{\sigma}|_{K^{(ab)^2}}\,(\alpha, K)_\phi\,\tilde{\sigma}^{-1}|_{\tilde{\sigma}(K^{(ab)^2})}$ for any $\alpha \in B(K, \phi)$, and for any embedding $\sigma : K \hookrightarrow K^{sep}$, where $\tilde{\sigma} \in \mathrm{Aut}\,(K^{sep})$ is a fixed extension to K^{sep} of the embedding $\sigma : K \hookrightarrow K^{sep}$.

Key Words: local fields, metabelian extensions, metabelian local Artin map, non-abelian local class field theory.