It has been shown by Y. Zhu and the speaker that the action of the modular group $\text{SL}(2, \mathbb{Z})$ on the character ring of a semisimple factorizable Hopf algebra factors over the reduced modular group $\text{SL}(2, \mathbb{Z}_N)$ of $2 \times 2$-matrices with entries in the finite ring $\mathbb{Z}_N$ of integers modulo $N$, where $N$ is the exponent of the Hopf algebra, under the assumption that the base field has characteristic zero and that the value of an integral on the inverse Drinfel’$d$ element differs from its value on the Drinfel’$d$ element itself by at most a sign.

Here, the reduced modular group acts via linear maps. However, as we explain in the talk, this action can be extended to an action of the general linear group $\text{GL}(2, \mathbb{Z}_N)$ if one does not only consider linear maps, but also semilinear maps, where ‘semilinear’ means that the scalars are modified by the action of the Galois group $\text{Gal}(\mathbb{Q}_N/\mathbb{Q})$ of the cyclotomic field. This action of the general linear group also provides a better understanding of a certain Galois condition satisfied by the Drinfel’d element. The talk is based on a recent article (Adv. Math. 236 (2013), 158-223) written jointly with Y. Zhu. We present the results using modular data.