1106-00-1272 **Kenichi Shimizu*** (x12005i@math.nagoya-u.ac.jp), Furocho, Chikusaku, Nagoya, Aichi 464-8602, Japan. *Frobenius properties of tensor functors.*

An extension H/K of finite-dimensional Hopf algebras is not a Frobenius extension in general, but a "β-Frobenius extension" in the sense that there is an algebra automorphism β of K, written by using the modular functions of H and K, such that the K-dual of H is isomorphic to H as a K-H-bimodule if we twist the action of K by β:

$$ {}_K H_H \cong {}_\beta \mathrm{Hom}_K(H_K, K_K) $$

(Fischman-Montgomery-Schneider (1997)). I will talk about a generalization of this result to finite tensor categories: Let $F : \mathcal{C} \to \mathcal{D}$ be a tensor functor between finite tensor categories, and let L and R be a left and a right adjoint ot F, respectively. If F is surjective in the sense that every $V \in \mathcal{D}$ is a quotient of $F(X)$ for some $X \in \mathcal{C}$, then there is an invertible object $\chi_F \in \mathcal{D}$, written by using the distinguished invertible objects of $\mathcal{C}$ and $\mathcal{D}$, such that

$$ L(\chi_F \otimes V) \cong R(V) \cong L(V \otimes \chi_F) \quad (V \in \mathcal{D}). $$

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