
RYAN AZIZ, Université Libre de Bruxelles

Generalize Yetter-Drinfeld Modules and Center of Biactegories

We study the notion of the E -center of bi-actegory $\mathcal{Z}_E(\mathcal{M})$ where \mathcal{M} is a $(\mathcal{C}, \mathcal{D})$ -biactegory (or bimodule category) relative to an op-monoidal functor $E : \mathcal{C} \rightarrow \mathcal{D}$. We apply the theory to $\mathcal{M} = {}_A\text{Mod}$, $\mathcal{C} = {}_H\text{Mod}$, and $\mathcal{D} = {}_K\text{Mod}$, and $E \cong C \otimes_H - : {}_H\text{Mod} \rightarrow {}_K\text{Mod}$, where A is a (H, K) -bicomodule algebra and C is a (K, H) -bimodule coalgebra. Under the condition that A is an H -Galois object, we show that the E -center of ${}_A\text{Mod}$ is equivalent to the category of generalized Yetter-Drinfeld modules as introduced by Canaepeel, Militaru, and Zhu, generalizing the similar well-known result for the usual Yetter-Drinfeld modules.