

1172-16-233

Sebastian M Burciu*, 21 Calea Grivitei Street, Romania, 010702 Bucharest, Romania.

Subalgebras of etale algebras and fusion subcategories. Preliminary report.

Let \mathcal{C} be a fusion category and $R : \mathcal{C} \rightarrow \mathcal{Z}(\mathcal{C})$ the right adjoint of the forgetful functor. It is well known, see [DMNO] that $\mathbb{A} := R(\mathbf{1})$ is an etale algebra in $\mathcal{Z}(\mathcal{C})$. We show that if \mathcal{C} is pseudo-unitary then any unitary subalgebra of the adjoint algebra \mathbb{A} associated to a pseudo-unitary fusion category is an etale algebra. As a consequence we also show that in a pseudo-unitary modular category any unitary subalgebra of an etale algebra is also etale. We also obtain a new description for the principal Frobenius-Perron eigenvectors right cosets with respect to a fusion subcategory of a given fusion category in terms of the etale subalgebra associated to the fusion subcategory. (Received August 30, 2021)