When is the composition of normal monomorphisms stable? *

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It is well known that, in general, a normal subgroup of a normal subgroup need not be normal. In other words, in the category of groups, normality is not *transitive*. By contrast, in the category of abelian groups, or more generally in any abelian category, normality is transitive.

In this talk, we exhibit some non-abelian categories in which the composition of normal monomorphisms is stable, and we explore the categorical characterisations and consequences of this property in the semi-abelian context.

References

[1] X. García-Martínez, J. R. A. Gray, M. A. Hoefnagel, T. Van der Linden, and C. Vienne. *Categorical algebraic aspects of Heyting semilattices*, in preparation (2025).

[2] C. Vienne. *Categorical-algebraic conditions in semi-abelian categories*, PhD Thesis, UCLouvain (2025).