# 20th Colloquium Lecture, School of Mathematics Faculty of Mathematics and Physics


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Sokolovská 83, Praha 8 – Karlín

# Separable monoids in derived categories of schemes


**Abstract**

Classical literature, going back to the 1960s, studies the notion of a "separable algebra". We'll recall the definition and some of the results.

It is formal that one can generalize the definition to any monoidal category: one knows what a monoid in a monoidal category is - in the monoidal category of vector spaces over a field K a monoid is nothing more than a K-algebra. And the definition of a separable algebra also extends immediately.

Balmer, with several coauthors, has proved a number of striking results for the special case where the monoidal category is triangulated. We will review some of their results. The theorem we want to explain says that, in the special case of the derived category of a scheme, all the separable monoids are easy to understand: they come from etale maps to the scheme.


**About the speaker**

Professor Neeman obtained his PhD in 1983 from Harvard (advisor: David Mumford). His main research interests are in algebraic geometry, homological algebra, and K-theory. He has written numerous research papers, notably on Brown representability, Grothendieck duality, stable homotopy and universal localization, published in Ann. of Math., Invent. Math., J. Amer. Math. Soc., etc. He has also authored several books, including *Triangulated Categories* (Princeton Univ. Press, 2001) and *Algebraic and Analytic Geometry* (Cambridge Univ. Press, 2007).

**Further information**

**http://msekce.karlin.mff.cuni.cz/colloquia**