

Cohomology of quasi-coherent sheaves via model categories and approximation theory

Proff. Jan Šťovíček, Jan Trlifaj¹

¹Charles University in Prague (Czech Republic)
Department of Algebra
Email: {stovicek,trlifaj}@karlin.mff.cuni.cz

Timetable: 16 (8+8). Lectures on March/April 2012 (see the calendar), Room 2BC/30, Torre Archimede.

Course requirements: Basic notions on rings and modules and on category theory.

Examination and grading: Seminar on a subject assigned by one of the Instructors.

SSD: MAT/02

Aim: The course provides an introduction to the theory of Quillen's model categories and to triangulated categories with applications to cohomology theory and representability of functors.

Course contents:

Lectures will be concerned with recent methods of computation of cohomology of quasi-coherent sheaves, with emphasis on the role of Drinfeld vector bundles.

The starting point will be basic general ideas going back to Quillen and Hovey leading to the recent results in papers by Šťovíček-Saorin, Guil Asensio-Estrada-Prest -Trlifaj.

A series of lectures will concern triangulated categories and representability of functors.