SEMPARIS – Séminaires en région parisienne

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TBA

Mardi 18 Fevrier 2025, 10 :30
IHES, Amphithéâtre Léon Motchane(Cours de l'IHES)
Domaines : math

Titre : *Algebraic K-theory and Chromatic Homotopy Theory (1/4)*

Orateur : **Dustin Clausen (IHES)**

Résumé : *The most universal kind of linear algebra is based not on abelian groups, but on homotopy-theoretic objects known as spectra. According to chromatic homotopy theory, one can systematically organize spectra into periodic families. On the other hand, a natural source of spectra is provided by algebraic K-theory, a highly refined cohomological invariant of rings (or schemes, etc). This leads to the subject of this course : the interaction of the chromatic theory with algebraic K-theory. The story begins with classical theorems of Thomason, Mitchell, and Hesselholt-Madsen. Bold generalizations of these theorems were conjectured by Rognes and Ausoni-Rognes, under the umbrella term of "redshift". Several of these conjectures are now theorems due to recent work of many people. Remarkably, this work has applications to "pure" chromatic homotopy theory : Burklund-Hahn-Levy-Schlank used it to settle (in the negative) the "telescope conjecture", the last of Ravenel's conjectures.*
Lecture 1 : Introduction to chromatic homotopy theory.
Lecture 2 : Descent and "soft redshift".
Lecture 3 : "Hard redshift", a.k.a. the Lichtenbaum-Quillen property.
Lecture 4 : The telescope conjecture.