

*Exposé du jeudi 7 mai 2009*

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**ON THE STRUCTURE OF THE FROBENIUS DIRECT IMAGE OF THE  
STRUCTURE SHEAF OF  $G/P$**

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**Résumé :** A classical theorem of Beilinson on a complex projective space  $\mathcal{P}$  asserts that the direct sum  $\mathcal{E}$  of certain invertible sheaves on  $\mathcal{P}$  provides a triangulated equivalence between the bounded derived categories of the coherent sheaves on  $\mathcal{P}$  and of the finite dimensional modules over the endomorphism ring of  $\mathcal{E}$ . After similar results obtained by Kapranov on the quadrics and on  $G/P$  for  $G$  a general linear group and  $P$  a parabolic subgroup, Catanese recently proposed a conjecture on the existence of such  $\mathcal{E}$  on  $G/P$  for general complex reductive group  $G$  and  $P$  a parabolic subgroup, parametrizing the coherent sheaves that constitute the indecomposable direct summands of  $\mathcal{E}$  by the coset representatives of the Weyl group of  $G$  by the Weyl group of  $P$ . We will explain how these coherent sheaves may hopefully be obtained by base change from certain indecomposable direct summands of the Frobenius direct image of the structure sheaf of  $G/P$ . This is a joint work with Ye Jiachen.

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<sup>1</sup>Les jeudis matin, de 10 h 30 à 11 h 30, salle 004, IRMAR (bâtiment 22), Université de Rennes 1, Campus de Beaulieu