1057-18-371   **Leovigildo Alonso Tarrío*** (`leo.alonso@usc.es`), Dep. de Álxebra Fac. de Matemáticas, Universidade de Santiago, Santiago de Compostela, SPAIN, E-15782 Santiago de Comp., Galicia, Spain. *The structure of the derived category of a scheme.*

We will discuss the structure of the category $A_{qc}(X)$ of quasi-coherent sheaves over a scheme X. It is a Grothendieck abelian category. This implies that its derived category, $D(A_{qc}(X))$, satisfies three of the axioms of a stable homotopy category in the sense of Hovey, Palmieri and Strickland, namely it is triangulated, possesses products and satisfies Brown representability. If X is in addition quasi-compact and semi-separated (non necessarily noetherian) then $D(A_{qc}(X))$ is a symmetric closed category with a set of strongly dualizable generators, thus satisfying all five axioms. This answers a question of Strickland. We will also show that in this case the category is also *unital*, the unit for the tensor is compact; and *algebraic*, the generators are compact objets. (Received January 26, 2010)

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