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Derived equivalence of varieties and fibrations over curves and surfaces.

The bounded derived category of coherent sheaves on a smooth projective variety has two basic features: on one hand it is a natural object where to perform cohomological computations, on the other hand it encodes several aspects of the birational geometry of the variety itself. In this talk I will show how an equivalence of derived categories of two smooth projective varieties induces a base-preserving bijection between their sets of fibrations over curves of genus at least two. Moreover, I will show how this result can be extended to the case of fibrations over surfaces of maximal Albanese dimension and positive holomorphic Euler characteristic if the Hodge number $h^{0,2}$ were a derived invariant. (Received September 02, 2018)