

Seminari de Geometria Algebraica 2007/2008 (UB-UPC)

Divendres 1 de febrer a les 15h. a l'aula B1

<http://atlas.mat.ub.es/sga>

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## Continuity of volumes on arithmetic varieties

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We introduce the volume function for  $C^\infty$ -hermitian invertible sheaves on an arithmetic variety as an analogue of the geometric volume function. The main result of this talk is the continuity of the arithmetic volume function. As a consequence, we have the arithmetic Hilbert-Samuel formula for a nef  $C^\infty$ -hermitian invertible sheaf. There are other application, for example, a generalized Hodge index theorem, an arithmetic Bogomolov-Gieseker's inequality, etc.

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