Théorie des nombres et applications
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Jacques Martinet. *Hermite versus Minkowski.* Let Λ be a lattice in an n-dimensional Euclidean space E, of determinant D. Define the invariant $H(\Lambda)$ (resp. $M(\Lambda)$) as the minimum of $\left(\frac{N(e_1)\cdots N(e_n)}{D}\right)^{1/n}$ where $e_1, \ldots, e_n \in \Lambda$ constitute a basis for Λ (resp. for E) and then their supremum H_n and M_n on the set of all lattices. Upper bounds for H_n (resp. M_n) were given by Hermite (resp. by Minkowski); Minkowski's bound is simply the *Hermite constant* which has been intensively studied since it was defined. In the talk, we shall prove that H_n/M_n is equal to $\max(1, \frac{n}{4})$ for $n \leq 8$, a result conjectured by Achill Schürmann, and which might well be still correct for $n = 9$. (For $n > 9$, H_n is strictly larger than $\frac{n}{4}$.)