

# Number Theory

Diophantine approximation in matrices and Lie groups

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A classical question in Diophantine approximation is how well can a real number be approximated by rationals. In this talk I will discuss a generalization of this question in two directions, namely to approximation on submanifolds of  $\mathbf{R}^n$ , and more specifically to submanifolds of matrices, and approximation in Lie groups. We will also discuss the optimal Diophantine exponent.

This is joint work with M. Aka, E. Breuillard and N. de Saxce.