

Meeting: 1007, Santa Barbara, California, SS 5A, Special Session on Noncommutative Geometry and Algebra

1007-16-79 **Jacques Alev*** (jacques.alev@univ-reims.fr), Université de Reims, UFR Sciences, Moulin de la Housse, Mathématiques, B.P. 1039, 51687 Reims, France. *Some developments on enveloping fields.*

Let \mathfrak{g} be a Lie algebra over a field k , $U(\mathfrak{g})$ the enveloping algebra of \mathfrak{g} and $K(\mathfrak{g})$ the field of fractions of $U(\mathfrak{g})$ when it exists. For \mathfrak{g} finite dimensional algebraic and k of characteristic zero, the celebrated Gelfand-Kirillov Hypothesis gives the structure of $K(\mathfrak{g})$, as being isomorphic to a Weyl skew field. During this talk, we are going to present some recent results concerning higher level Gelfand-Kirillov dimensions and transcendency degrees and applications to the case where \mathfrak{g} is infinite dimensional of subexponential growth and k of characteristic zero. Some results related to the case where \mathfrak{g} is finite dimensional and k of positive characteristic will also be mentioned. (Received February 03, 2005)