Meeting: 998, Houston, Texas, SS 5A, Special Session on Associative Rings

998-16-399 **Guenter Krause*** (gkrause@cc.umanitoba.ca), Department of Mathematics, University of Manitoba, Winnipeg, Manitoba R3T2N2, Canada. *On the exactness of the Gelfand-Kirillov dimension for modules over noetherian algebras and related questions.* Preliminary report.

Let A be a noetherian k-algebra, k a field. Consider the following questions. (i) Is the Gelfand-Kirillov dimension exact for finitely generated A-modules M, that is, does $\mathrm{GKdim}(M) = \max\{\mathrm{GKdim}(N), \mathrm{GKdim}(M/N)\}$ always hold for submodules N of M? (ii) Does A always have a prime ideal P such that $\mathrm{GKdim}(A/P) = \mathrm{GKdim}(A)$? The talk will briefly discuss the history of these problems , how they are related to each other, and what (little) progress has been made in the last 20 years or so in trying to resolve them. (Received March 02, 2004)