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Jason P. Bell* (jpb@math.sfu.ca), Simon Fraser University, 8888 University Drive, Burnaby, B.C. V5A 1S6, Canada. *Centralizers in domains of low Gelfand-Kirillov dimension*. Preliminary report.

Let a be an element in an algebra A . We study the centralizer $C(a; A)$ of a in A . We show that if A is a finitely-generated domain of Gelfand-Kirillov dimension d then either the centralizer of a has Gelfand-Kirillov dimension at most $d - 1$, or a is algebraic over the centre of the quotient division algebra of A . As a result, we show that if A is a finitely generated complex noetherian domain of GK dimension 3 then the centralizer of a non-scalar element of a satisfies a polynomial identity. (Received September 03, 2008)