1056-20-722 **Robert M. Guralnick** (guralnic@math.usc.edu), Department of Mathematics, University of Southern California, Los Angeles, CA 90089, and **Pham Huu Tiep*** (tiep@math.arizona.edu), Department of Mathematics, University of Arizona, Tucson, AZ 85721. *A problem of Kollár and Larsen on finite linear groups and crepant resolutions.* Preliminary report.

The notion of age of elements of complex linear groups was introduced by M. Reid and is of importance in algebraic geometry, in particular in the study of crepant resolutions and of quotients of Calabi-Yau varieties. In this paper, we solve a problem raised by J. Kollár and M. Larsen on the structure of finite irreducible linear groups generated by elements of age ≤ 1. More generally, we bound the dimension of finite irreducible linear groups generated by elements of bounded deviation. As a consequence of our main results, we derive some properties of symmetric spaces $GU_d(\mathbf{C})/G$ having shortest closed geodesics of bounded length, and of quotients $\mathbf{C}^d/G$ having a crepant resolution. (Received September 16, 2009)