1032-14-82 **Shulim Kaliman*** (kaliman@math.miami.edu), University of Miami, Departiment of Mathematics, Coral Gables, FL 33124, and **Frank Kutzschebauch** (Frank.Kutzschebauch@math-stat.unibe.ch), Universität Bern - Mathematisches Institut, CH-3012 CH-3012 Berne, Switzerland. *Density Property of Affine Algebraic Manifolds.* Preliminary report.

Let X be a complex affine algebraic manifold, $\mathrm{AVF}\,(X)$ be the space of algebraic vector fields on X, and $\mathrm{Lie}\,(X)$ be the Lie algebra generated by completely integrable algebraic vector fields. Then X has the algebraic density property if $\mathrm{AVF}\,(X) = \mathrm{Lie}\,(X)$. We prove the algebraic density property for all linear algebraic groups except for $\mathbf{C}$ and $\mathbf{C}^*$ (for which it does not hold) and the other complex tori. It holds also for smooth algebraic hypersurfaces of $\mathbf{C}^{n+2}_{uv,\bar{x}}$ given by equations of form $uv = p(\bar{x})$. In the non-affine case its analogue is valid for the complements to codimension ≥ 2 subvarieties of $\mathbf{C}^n$. Consequences of this property (in particular, its relation with the Oka-Grauert-Gromov principle) will be discussed. Let X be equipped with a holomorphic volume form ω and $\mathrm{AVF}_\omega(X)$ and $\mathrm{Lie}_\omega(X)$ have the similar meaning but with vector fields of zero divergence. Then we prove the equality $\mathrm{AVF}_\omega(X) = \mathrm{Lie}_\omega(X)$ for the hypersurfaces as before and $SL_n(\mathbf{C})$. (Received August 14, 2007)