1043-14-84 **Karl-Heinz Fieseler*** (khf@math.uu.se), Matematiska Institutionen, UU, PO Box 480, 75106 Uppsala, Sweden. *Russell's hypersurface from a geometric point of view.*

In my talk I sketch an idea how the proof of Makar-Limanov and Kaliman, that Russell's hypersurface has a nontrivial ML-invariant, can be understood geometrically: Being an open part $X \subset Z$ of a blow up $Z \longrightarrow \mathbf{C}^3$ with a relatively ample divisor $Y := Z \setminus X$ as complement, one shows that any $\mathbf{C}^+$-action on X descends to $\mathbf{C}^3$. This follows from the fact that any nontrivial $\mathbf{C}^+$-action on X induces a nontrivial $\mathbf{C}^+$-action on the Danielewski threefold $W := \mathrm{Sp}(B)$, where $B := \mathrm{gr}(\mathcal{O}(X))$ is the graded algebra associated to the filtration of $\mathcal{O}(X)$ defined by the pole order along Y. The corresponding locally nilpotent derivation is homogeneous, and one proves that the degree of any such derivation is negative. This can be done by relating possible $\mathbf{C}^+$-orbits to the orbits of the natural $\mathbf{C}^*$-action on W. (Received August 19, 2008)