1043-14-23   **Lucy Moser-Jauslin*** (`moser@u-bourgogne.fr`), Universite de Bourgogne, Institut de Math.de Bourgogne-CNRS-UMR 5584, 9, avenue Alain Savary - B.P. 47 870, 21078 Dijon, France, and **Pierre-Marie Poloni** (`Pierre-Marie.Poloni@u-bourgogne.fr`), Universite de Bourgogne, Institut de Math.de Bourgogne-CNRS-UMR 5584, 9, avenue Alain Savary - B.P. 47 870, 21078 Dijon, France. *Embeddings of Danielewski hypersurfaces.* Preliminary report.

A Danielewski hypersurface is defined as the zero set $V(P)$ in $\mathbf{C}^3$ of a polynomial of the form $P = x^n y - Q(x, z) \in \mathbf{C}[x, y, z]$, where $n \geq 1$ and $deg(Q(0, z)) \geq 2$. For $n \geq 2$, these surfaces have a non-trivial Makar-Limanov invariant. I will describe some results of P. M. Poloni on the classification of these hypersurfaces, and give some applications to the study of automorphisms of the complex three-dimensional affine space. The complete classification of isomorphism classes Danielewski surfaces is given. This is done by describing a "standard form" of the hypersurfaces. Then a classification of the equivalence classes of embeddings of hypersurfaces is discussed. (Received July 11, 2008)