1030-32-151 **Alexander Nagel*** (nagel@math.wisc.edu), Deparment of Mathematics, 825 Van Vleck Hall, University of Wisconsin-Madison, 480 Lincoln Drive, Madison, WI 53706. *Estimates for the Bergman kernel on monomial polyhedra – preliminary report.*

In joint work with Malabika Pramanik (University of British Columbia), we obtain uniform estimates for the Bergman kernel on the diagonal for domains of the form

$$\Omega = \left\{ (z, z_{n+1}) \in \mathbb{C}^{n+1} \,\middle|\, \Re e[z_{n+1}] > \sum_{j=1}^{d} |z^{\mathbf{p}_j}|^2 = \sum_{j=1}^{d} |z_1^{p_{j,1}} \cdots z_n^{p_{j,n}}|^2 \right\}$$

where each $\mathbf{p}_j = (p_{j,1}, \ldots, p_{j,n})$ is an n-tuple of non-negative integers and $z = (z_1, \ldots, z_n) \in \mathbb{C}^n$. A special case is the domain $\Omega_\dagger = \{(z_1, z_2, z_3) \in \mathbb{C}^3 \,|\, \Re e[z_3] > |z_1|^6 + |z_1 z_2|^2 + |z_2|^6\}$. I will state most of our results for this particular example, and will try to explain some of the difficulties encountered in studying domains of this type. (Received July 30, 2007)