1073-16-212 **Kiyoshi Igusa** (igusa@brandeis.edu), Brandeis University, Waltham, MA 02453, and **Gordana G. Todorov*** (g.todorov@neu.edu), Northeastern University, Boston, MA 02115. *Properties of Continuous Cluster Categories.*

We define a family of categories $C^{(c,d)}$ for $c, d \in \mathbf{R}_+$.

In Thm1 we give a precise statement for which $c, d \in \mathbf{R}_+$ the categories $C^{(c,d)}$ are general cluster categories. In Prop2 we state that these categories satisfy certain continuous condition, giving justification to the name. Thm3 gives relations between spaced out cluster categories, classical cluster categories of type A_n and continuous cluster categories.

Theorem 1 The categories $C^{(c,d)}$ are general cluster categories if and only if either $c = d$ or $c < d$ and $2d/(d-c)$ is an integer greater than 3.

Proposition 2 All automorphisms of $C^{(c,d)}$ are continuous with respect to the naturally induced topology from $\mathbf{R^2}$ to $C^{(c,d)}$.

Theorem 3 a) For each spaced out cluster category S_n there is a triangulated embedding $S_n \to C^{(c,c)}$.

b) For each classical cluster category C_{A_n} there is a triangulated embedding $C_{A_n} \to C^{(c,d)}$ providing that $2d/(d-c) = n+3$. (Received August 01, 2011)