1099-47-381   **Ali S Kavruk*** (`kavruk@illinois.edu`). *On a non-commutative analogue of a classical result of Namioka and Phelps.* Preliminary report.

In this talk we will focus on nuclearity aspects in the category of function systems and operator algebras. A classical result of Namioka and Phelps states that the square is a test object for the verification of nuclearity in the tensor theory of convex compact sets. If we introduce the Kadison space $\mathcal{R}_n = \{(a_i) : a_1 + a_2 = a_3 + a_4 = \cdots = a_{2n-1} + a_{2n}\} \subset \ell_\infty^{2n}$ then their result, from a predual perspective, is equivalent to $\mathcal{R}_2$ being a test object to verify nuclearity in the category of Kadison spaces. We establish a non-commutative analogue of this as follows: a unital C*-algebra is nuclear (in the sense of Lance) if and only if its minimal and maximal tensor products with $\mathcal{R}_3$ coincide. The proof we suggest covers the nuclearity characterization via non-commutative tetrahedron outlined by Effros. We also show that the Namioka-Phelps test space $\mathcal{R}_2$ is C*-nuclear, and therefore far from being a test object in the non-commutative case. Time permitting we will also discuss a partition of unity property for C*-algebras which distinguishes nuclear C*-algebras among the others. (Received February 11, 2014)