## 1057-46-171 Bernardo Cascales\* (beca@um.es), Universidad de Murcia-Kent State University, Kent, OH 44240, and Vladimir Kadets and Jose Rodriguez. The Gelfand integral for multi-valued functions.

We study the existence of measurable selectors and measurable almost selectors for  $w^*$ -measurable multi-functions with values in dual Banach spaces. We define and study Gelfand and Dunford integral for multi-functions. This new theory of integrable multi-functions is developed with the help of some non-trivial functional analysis tools. Pettis integral for multi-functions, studied by different authors over the years, naturally appears as a particular case of Dunford integral now. Explanations about the ultimate reason for the compactness of Pettis integral are given. (Received January 21, 2010)