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Selections of mappings with values in non-locally convex spaces

Abstract. Classical results on continuous singlevalued selections of convex-valued mappings use in an essential way the local convexity of the range space, i.e. the convexity of its unit ball. The situation outside the class of locally convex completely metrizable spaces is still unknown. Recently, Dobrowolski and van Mill found a characterization of the AR-property in terms of approximate selections for mappings with finite-dimensional values. The first part of our talk will deal with their results. The second part of the talk will be related, roughly speaking, to the notion of the uniform local convexity of a family of convex sets. A selection theorem for mappings with such a family of values will be presented. The key technical point is continuity of parametric integral with respect to an appropriate distribution of probability measures.