MAXIM BURKE, University of Prince Edward Island, Department of Mathematics and Statistics, 550 University Avenue, Charlottetown, PE
Kadec norms on spaces of continuous functions

We study the existence of pointwise Kadec renormings for Banach spaces of the form $C(K)$. (A pointwise Kadec renorming is a norm equivalent to the sup norm for which the norm topology and the topology of pointwise convergence agree on the unit sphere.) We show in particular that such a renorming exists when K is any product of compact linearly ordered spaces, extending the result for a single factor due to Haydon, Jayne, Namioka and Rogers. We show that if $C(K_1)$ has a pointwise Kadec renorming and K_2 belongs to the class of spaces obtained by closing the class of compact metrizable spaces under inverse limits of transfinite continuous sequences of retractions, then $C(K_1 \times K_2)$ has a pointwise Kadec renorming. We also prove a version of the three-space property for such renormings.

This is joint work with W. Kubis and S. Todorcevic.