Abstract

Let Lw ′ denote the assignment which associates with each pair of Banach spaces X , Y , the vector space Lw ′ (X , Y) and K (X , Y) be the space of all compact linear operators from X to Y. Let T ∈ Lw ′ (X , Y) and suppose (Tn) ⊂ K (X , Y) converges in the dual weak operator topology (w′) of T. Denote by K u ((Tn)) the finite number given by K u ((Tn)) := sup { max { Tn , T − 2Tn }} . n∈N ′ The u-norm on Lw (X , Y) is then given by T u := inf { K u ((Tn)) : T = w′ − lim Tn , n Tn ∈ K (X , Y)}. ′ It has been shown that (Lw (X , Y) . u) is a Banach operator ideal. We find ′ conditions for K (X , Y) to be an unconditional ideal in (Lw (X , Y) . u) .