Pedro Tradacete (tradacete@ub.edu) Faculty of Mathematics, University of Barcelona, Spain, *Strictly singular and power-compact operators on Banach lattices.*

ABSTRACT. Compactness of the iterates of strictly singular operators on Banach lattices is analyzed. We provide suitable conditions on the behavior of disjoint sequences in a Banach lattice, for strictly singular operators to be Dunford-Pettis, compact or have compact square. Special emphasis is given to the class of rearrangement invariant function spaces (in particular, Orlicz and Lorentz spaces). Moreover, examples of rearrangement invariant function spaces of fixed arbitrary indices with strictly singular non power-compact operators are also presented. The results are based on a joint work with J. Flores, F. L. Hernández and E. M. Semenov.