Abstract: The talk will consist of two parts. In the first part, we develop the cornerstone theorem given in [2, Proposition 2.1], which states that for a Banach lattice $E$ with order continuous norm (OCN), if $D$ is a $PL$-compact subset of $E$, then $\chi(D) = \rho(D)$, by showing that if a Banach lattice $E$ has OCN, then $w(D) = \rho(D)$ for every bounded subset $D$ of $E$. Here, $\chi$, $\rho$, and $w$ are the Hausdorff measure of non-compactness, the measure of non-semicompactness introduced in [2], and the measure of weak non-compactness, respectively. Secondly, we introduce the notion of the modulus of non-semicompact convexity in Banach lattices defined with the help of the measure of non-semicompactness in Banach lattices. We extend the results obtained in [1] showing that the modulus of non-semicompact convexity is continuous and has some extra properties in reflexive Banach lattices.

References
