Pub. Mat. UAB
N° 21 Oct. 1980
Actes VII JMHL

COMPORTAMIENTO DE LOS OPERADORES ACOTADOS EN LOS SISTEMAS ORTOGONALES

Antonio Plans

Dpto de Geometría y Topología
Universidad de Zaragoza

We deal with the real, separable, Hilbert space H and its linear, bounded operators. As a sample of the results that are obtained in this paper, we mention the following:

1. An operator A is completely continuous ($A \in \mathfrak{S}'$) if and only if there is a system of subspaces $\{E_{r_i};\ i \in N\}$ such that $\sum_{1}^{\infty} \oplus E_{r_i} = H$, $\sum \|A|_{E_{r_i}}\|^2 < \infty$ and $\{A(E_{r_i});\ i \in N\}$ is ortogonal. Thus $\mathfrak{S}$ is a natural generalization of $\mathfrak{S}^2$.

2. An injective operator A has <u>non</u> closed range Δ_A if and only if there is an ortonormal basis of H, $\{e_i;\ i \in N\}$, such that $Ae_i \xrightarrow[i\to\infty]{} o$.