

CONFÉRENCE « ESPACES DE HILBERT DE FONCTIONS ANALYTIQUES »
8–12 DÉCEMBRE 2008

CONFERENCE ON HILBERT SPACES OF ANALYTIC FUNCTIONS
DECEMBER 8–12, 2008

Compact operators that commute with a contraction

Karim Kellay

CMI
Université de Provence Aix-Marseille 1
39 rue Frédéric Joliot-Curie
13453 Marseille cedex 13
FRANCE

kellay@cmi.univ-mrs.fr

Let T be a C_0 -contraction on a separable Hilbert space. We assume that $I_H - T^*T$ is compact. For a function f holomorphic in the unit disk \mathbb{D} and continuous on $\overline{\mathbb{D}}$, we show that $f(T)$ is compact if and only if f vanishes on $\sigma(T) \cap \mathbb{T}$, where $\sigma(T)$ is the spectrum of T and \mathbb{T} the unit circle. If f is just a bounded holomorphic function on \mathbb{D} we prove that $f(T)$ is compact if and only if $\lim_{n \rightarrow \infty} T^n f(T) = 0$.

This is a joint work with M. Zarrabi.