

Analytic P-ideals in $\mathcal{B}(H)_{\leq 1}^+$

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In 1997 S. Solecki proved that an ideal I on ω is an analytic P-ideal iff $I = Exh(\phi) = \{x \in 2^\omega : \lim_n \phi(X \setminus n) = 0\}$ for some lower semicontinuous submeasure ϕ on ω . Let H be a separable infinite dimensional complex Hilbert space and $\mathcal{B}(H)_{\leq 1}^+$ be the set of positive operators on H of norm at most one. The set $\mathcal{B}(H)_{\leq 1}^+$ can be naturally regarded as a partial order, it is also a Polish space with respect to the weak operator topology. We define P-ideals on $\mathcal{B}(H)_{\leq 1}^+$ and prove a non commutative version of Solecki's Theorem. We also see that Solecki's result can be deduced from it.