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Frederic Gaunard* (frederic.gaubard@math.u-bordeaux1.fr), Institut de Mathématiques de Bordeaux, 351 cours de la Liberation, 33405 Talence, France. *Minimality, (Weighted) Interpolation in Paley-Wiener Spaces & Control Theory.*

It is well known from a result by Shapiro-Shields that in the Hardy spaces, a sequence of reproducing kernels is uniformly minimal if and only if it is an unconditional basis in its span. This property which can be reformulated in terms of interpolation and so-called weak interpolation is not true in Paley-Wiener spaces in general. Here we show that the Carleson condition on a sequence Λ together with minimality in Paley-Wiener spaces PW_τ^p of the associated sequence of reproducing kernels implies the interpolation property of Λ in $PW_{\tau+\epsilon}^p$, for every $\epsilon > 0$. With the same technics, using a result of McPhail, we prove a similiary result about minimlity and weighted interpolation in $PW_{\tau+\epsilon}^p$. We apply the results to control theory, establishing that, under some hypotheses, a certain weak type of controllability in time $\tau > 0$ implies exact controllability in time $\tau + \epsilon$, for every $\epsilon > 0$. (Received December 20, 2011)