1047-46-377 **Quanhua Xu*** (qxu@univ-fcomte.fr), Laboratoire de Mathematiques, Universite de Franche-Comte, 25030 Besancon, France. *Structures of certain homogeneous Hilbertian operator spaces and applications.*

Let $QS(C \oplus R)$ denote the class of quotients of subspaces of $C \oplus R$. We show that the operator space structure of each homogeneous $F \in QS(C \oplus R)$ is completely determined, under a mild regularity assumption, by its fundamental sequences

$$\Phi_c(n) = \Big\| \sum_{k=1}^{n} e_{k1} \otimes e_k \Big\|^2_{C \otimes_{\min} F}, \quad \Phi_r(n) = \Big\| \sum_{k=1}^{n} e_{1k} \otimes e_k \Big\|^2_{R \otimes_{\min} F},$$

where (e_k) is an orthonormal basis of F. The underlying result is a canonical representation of F in terms of weighted column and row spaces with weights given by Φ_c and Φ_r. This canonical representation yields an explicit formula for the exactness constant of an n-dimensional subspace F_n of F:

$$ex(F_n) \sim \Big[\frac{n}{\Phi_c(n)}\, \Phi_r\Big(\frac{\Phi_c(n)}{\Phi_r(n)}\Big) + \frac{n}{\Phi_r(n)}\, \Phi_c\Big(\frac{\Phi_r(n)}{\Phi_c(n)}\Big) \Big]^{1/2}.$$

The projection constant of F_n is explicitly expressed in terms of Φ_c and Φ_r too. Orlicz space techniques play a crucial role in our arguments. They also permit to determine the completely 1-summing maps between two homogeneous spaces E and F in $QS(C \oplus R)$. This is a joint work with Marius Junge. (Received February 02, 2009)