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Splitting problem for selections

Abstract. Let $F_1 : X \rightarrow Y_1$ and $F_2 : X \rightarrow Y_2$ be any convex-valued lower semicontinuous mappings and let $L : Y_1 \oplus Y_2 \rightarrow Y$ be any linear surjection. The *splitting problem* is then the problem of representation of any continuous selection f of the composite mapping $L(F_1; F_2)$ in the form $f = L(f_1; f_2)$, where f_1 and f_2 are some continuous selections of F_1 and F_2 , respectively. We shall prove that the splitting problem always admits an approximate solution with f_i being an ε -selections. We shall also discuss other results, problems and conjectures.