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Title: A minimal set of cancellation violating sequences for finite two-dimensional non-additive measurement

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A weak order $\preceq$ on a finite two-dimensional Cartesian product set $X = X_1 \times X_2$ has an additive real-valued representation if and only if it satisfies a sequence of cancellation conditions $C(2), C(3), \dots$. Given fixed cardinalities m and n for X_1 and X_2 , there is a largest K , denoted by $f(m, n)$, such that some $\preceq$ on X satisfies $C(2)$ to $C(K-1)$ but violates $C(K)$. In 2001, Fishburn presented several open problems, including the exact values of $f(m, n)$ for some small (m, n) . Recently, by giving a minimal chain of cancellation violating sequences adequate for the detection of all non-additively representable weak orders for $(m, n) = (3, 3)$, $(3, 4)$ and $(3, 5)$, Ng shows that $f(3, 5) = 4$. This article is a continuation of the above work for $(m, n) = (3, 6)$.

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