Some results related to the general Gauß-Markov model

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weak complementarity, non-testability and missing observations

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In the literature, COMPLEMENTARY matrices have been studied because of their importance when analyzing OVER-PARAMETRIZED linear statistical models. In this talk, the somewhat more general concept of WEAK COMPLEMENTARITY is considered. Observing the fact that the usual F-TEST in ANOVA is applicable only for "TESTABLE" hypotheses, that in practice however - e.g. in non-orthogonal settings or incomplete layouts - NON-TESTABLE hypotheses can be of importance, a variant of the F-TEST is discussed that allows to decide for significant deviations also in NON-TESTABLE situations and to detect NON-TESTABILITY, too.