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SOME ALGEBRAIC AND STATISTICAL PROPERTIES OF WLSES UNDER A GENERAL GROWTH CURVE MODEL*

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Abstract. Growth curve models are used to analyze repeated measures data (longitudinal data), which are functions of time. General expressions of weighted least-squares estimators (WLSEs) of parameter matrices were given under a general growth curve model. Some algebraic and statistical properties of the estimators are also derived through the matrix rank method.

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Key words. Growth curve model, Moore-Penrose inverse of matrix, Rank formulas for matrices, Parameter matrix, WLSE, Extremal rank, Uniqueness, Unbiasedness.

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