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Summaries of Papers Appearing in this Issue

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SUMMARIES OF PAPERS APPEARING IN THIS ISSUE

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LUBOMÍR KUBÁČEK, Bratislava: *On a generalization of the orthogonal regression*. Apl. mat. 20 (1975), 87—95. (Original paper.)

The parameters of the linear conform transformation between two two-dimensional coordinate systems should be estimated from the results of the measurement performed in both systems. The aim of the measurement is to determine the coordinates of N points which are called identical. The maximum-likelihood solution of this problem is given.

Ондрей Галло, Коšice: *О некоторых свойствах характеристики огибающей коническо-винтовой поверхности*. Apl. mat. 20 (1975), 155—165. (Оригинальная статья.)

В статье выводятся некоторые свойства характеристики e огибающей коническо-винтовой поверхности; в первую очередь свойства характеристик s^T развертываемых винтовых поверхностей η возникающих винтовым движением касательных плоскостей τ образующей конической поверхности ϕ при данном винтовом движении. Далее рассматриваются свойства проекций характеристик s^T в плоскость перпендикулярную оси o винтового движения и их использование для упрощенного построения точек характеристики e . Касательная прямая в точке характеристики e строится как линия пересечения касательных плоскостей образующей конической поверхности ϕ и гиперболического параболоида проходящего через характеристику e .

SIEGFRIED SCHOLZ, Dresden: *Runge-Kutta-Verfahren mit festen und variablen Parametern zur Lösung von Systemen gewöhnlicher Differentialgleichungen 1. Ordnung*. Apl. mat. 20 (1975), 166—185. (Originalartikel.)

Durch geeignete Wahl freier Parameter wird bei expliziten Runge-Kutta-Verfahren zur Lösung von Differentialgleichungssystemen 1. Ordnung eine Erhöhung der Konvergenzordnung um 1 bis 2 h -Potenzen erreicht.

JOSEF FUČÍK, Praha: *An agglomerative method for automatic forming of hierarchical classification*. Apl. mat. 20 (1975), 186—205. (Original paper.)

First some new concepts are introduced (extension of the similarity-function, similarity-measure, transitive sets) which facilitate the study of hierarchical classifications. Then an algorithm for forming hierarchical classifications with "good properties" is sketched. Finally, this procedure of classification is described in detail and represented by flowcharts. Theoretical justification of the method is given in Theorems 1 to 4 which show the connection between the properties of transitive sets and hierarchical classifications. Practical use of the method requires a concrete choice of the similarity-function as well as the data given in the corresponding form.

N. K. BASU, M. C. KUNDU, Calcutta: *Polynomial approximation and the quadrature problem over a semi-infinite interval*. Apl. mat. 20 (1975), 216—221. (Original paper.)

The polynomial approximation to a function in a semi-infinite interval has been worked out by using a variant of Chebyshev polynomials. The same has been applied to solve the quadrature problem over the said interval.