

Book Review

Statistical Treatment of Experimental Data, J.R. Green and D. Margerison, Elsevier, Amsterdam, 1978, revised edition, 382 pp., Dfl. 85.00.

In the articles printed in the current thermoanalytical journals, we find data from various fields of science. It is surprising to find that the common feature of many contributions is the discrepancy between sophisticated interpretation of results and inadequate treatment of measured data which often omits any statistical groundwork at all. So it has been said [1] that authors should at least become acquainted with some popular books on statistics [2] prior to writing any article on numerical results. It was, therefore, pleasing to notice the advertisement about this well-based book on statistics by J.R. Green and D. Margerison of the University of Liverpool in past issues of *Thermochimica Acta*. It is particularly welcome because neither an extensive mathematical background nor a prior knowledge of statistics is needed in order to make use of the book. Besides the introductory chapters providing an insight into probability distribution, variables and estimation, the different test theories needed for better analysis of thermoanalytical data (such as test on means, test of variance and goodness test) can be appreciated. Last, but not least, we can get acquainted with hypothesis testing, making it possible to check the reliability of theoretically predicted parameters with respect to their corresponding experimentally obtained values, e.g. activation energy or heat of reaction. No less important is the problem of the smoothing of experimental data by polynomial fitting as well as straight line plots and correlations in general.

The book contains many useful examples to illustrate individual problems, though, unfortunately, none from the field of thermal analysis.

In conclusion, I hope to see that this book helps to remove from thermoanalytical publications the diligent improving of numerical accuracy (usually trying to settle the magnitude of activation energy after the decimal point) as typical evidence of how much importance is laid on mathematical manipulations and how little on statistical logistics.

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1 J. Šesták, *J. Therm. Anal.*, 16 (1979) 503.

2 H. Swoboda, *Modern Statistics*, Droener Knauer, Munich, Zurich, 1971.