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Publisher *Taylor & Francis*

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International Journal of Environmental Analytical Chemistry

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713640455>

A review of: “APPLIED THERMOLUMINESCENCE DOSIMETRY”

To cite this Article (1983) 'A review of: “APPLIED THERMOLUMINESCENCE DOSIMETRY”', *International Journal of Environmental Analytical Chemistry*, 13: 3, 255 – 256

To link to this Article: DOI: 10.1080/03067318308071597

URL: <http://dx.doi.org/10.1080/03067318308071597>

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Book Review

APPLIED THERMOLUMINESCENCE DOSIMETRY, edited by M. Oberhofer and A. Scharmann, published for the Commission of the European Communities by Adam Hilger, 414 pp. ISBN-0-85274-544-3.

This book, which is highly recommended for all specialists in radioactive measurement, health physics or in all fields of radiation studies contains two parts: Fundamentals and Applications.

The different chapters are based on the lectures given on a course at the Joint Research Centre, Ispra (Italy), 12-16 November 1979 by 16 specialists in different aspects of Thermoluminescence Dosimetry (TLD).

Fundamentals: 9 chapters.

1. History (brief review with 32 references).
2. Theory (fundamentals with 69 references).
3. Instrumentation (automatic measuring devices, with list of the addresses of suppliers for different countries, and 12 references).
4. Accessory instrumentation, and in particular reference light sources, power dispensers, annealing stands, furnaces, irradiators and literature referring to the principal Conferences on this subject.
- 5,6. General characteristics of TL materials and preparation and properties of principal TL products.

Two important chapters devoted to significance of different methods and their possibilities of application (with 86 references).

- 7,8. Operational aspects, precision and accuracy of TLD measurements. Experimental results are analysed to show the source and magnitude of errors, the difference between accuracy and precision.
9. Reference to other solid-states methods.

A brief review of other methods with their advantages and disadvantages (8 references).

Applications: 11 chapters with numerous references. Chapters 10 to 15 and 18, and 19 are devoted to low level dosimetry: personal dosimetry, environmental monitoring, neutron dosimetry, glow curve analysis,

application in medicine, in biology and related fields, application of TLD for dating: review, techniques and problems. Chapters 16 and 17 deal with high level dosimetry in radiation chemistry and technology and especially in reactors.

Finally, Chapter 20 considers the application of TL doseimeters in dose standardisation and intercomparison represent an interesting view of comparative metrology. Although "old" units have been retained in this book, an Appendix enables the reader to convert from "old" to "new" SI units.

E. J. CHAROLLAIS