

BOOK REVIEW

L. P. Kok: 100 Problems of my Wife and their Solution in Theoretical Stereology, Coulomb Press Leyden, Leiden 1990, 130 pages.

Recently Coulomb Press Leyden published interesting book of L. P. Kok: 100 Problems of my Wife and their Solution in Theoretical Stereology. The book is based on the well known stereological results mostly originated from Wicksell integral equation. There are many problems in stereology which are formally equivalent to "Wicksell problem". Wicksell's work originates from Abel's equation which can be beautifully embedded in the large structure of direct and inverse integral transforms considered by Euler (1707 - 1783), Weil (1885 - 1955) and von Zeipel (1906, 1913, 1921). So we can say that this book completes the results of Cruz-Orive, DeHoff, Miles, Rhines, Underwood, Weibel, and others in the spirit of sometimes even forgotten very old publications of the leading mathematicians in the eighteenth and the nineteenth century. The work is presented on the way which is acceptable even for nonmathematicians like the author's wife who is pathologist and to whom the work is also dedicated.

The book is divided to 10 chapters in the following order: In Chapter (1) there are considered sizes, shapes, formulas and equations, where nonmathematicians are reminded of the basic mathematical background. In (2) there are extensively discussed the problems involving spheres, in Chapters (3), (4) and (5) the author discusses oblate and prolate ellipsoids, then in (6) and (7) he returns back to consideration of the problems of spheres. For biologists as well as for materials scientists there is especially interesting presentation of the problems of spheres inside spherical cavities in Chapter (8). In Chapter (9) four problems are devoted to spheres near hard boundaries. The last Chapter considers inverse problems estimating the densities and other stereological parameters from their two-dimensional samples.

This Kok's book is strongly recommended not only for stereologists studying their three-dimensional objects from two-dimensional samples but also for mathematicians that like to follow the good application of the classical mathematical results.

Dr. Ludvik Bogataj