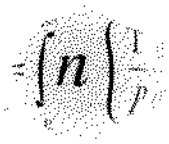
REDUCED GRADIENT
BUBBLE MODEL
in depth



BRUCE R.WIENKE

$$+\left(p_{iHe_2}-p_{aHe}\right)\exp\left(-\lambda_{He}t\right)\Pi=\left(p_{aN_2}+p_{}\right.$$

BEST PUBLISHING COMPANY

Bruce Wienke is an Instructor Trainer/ Technical Instructor with the National Association of Underwater Instructors (NAUI), has served on the Board of Directors (Vice Chairman for Technical Diving, Technical and Decompression Review Board Member), is a Master Instructor with the Professional Association of Diving Instructors (PADI), an Institute Director with the YMCA, and is an Instructor Trainer/Technical Instructor with Scuba Diving International/Technical Diving International (SDI/TDI).

The intent of this book is to present a working view of the reduced gradient bubble model and decompression mechanics, as well as applications to technical diving. The primary focus is on theory and applications to real diving. The writing is neither a medical nor physiological synthesis. It is directed toward the reader with some rudimentary understanding of decompression. It addresses the mechanical concepts of gas tissue exchange, bubbles and nucleation, supersaturation, perfusion, diffusion, related mechanisms, and underlying applications in the philosophy, "what works works."

The reader will note an emphasis on free gas phases and comments about free phase models versus dissolved phase models, the present basis for most decompression analysis. Also included are statistical analyses of decompression risk data, coupled to model algorithms and folded into meaningful and useful tables and meter format—an area under active study. Model validation testing and field protocols are also covered.

$$= \left(p_{aN_2} + p_{aHe} \right) + \left(p_{iN_2} + p_{aN_2} \right) \exp\left(-\lambda_{N_2} \right.$$

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