



underwater and airborne surveillance systems. In this book, author John Holmes presents the generating mechanism of the four major shipboard sources of magnetic fields, along with a detailed description of the induced and permanent ferromagnetic signature characteristics. Holmes presents a brief historical summary of magnetic naval mine development during World War II followed by a discussion of important improvements found in modern weapons, including an explanation of the damage mechanism for non-contact explosions. This is followed by a brief historical discussion of underwater and airborne submarine surveillance systems and magnetic field sensing principles, in which mathematical formulations are presented for computing expected target signal strengths and noise levels for several barrier types. Also outlined is a multi-layered defensive strategy against naval mines, with graphical explanations of the relationships between ship signature reduction and minefield clearing effectiveness. Equations for estimating geomagnetic, ocean surface wave, platform, and vector sensor motion noises are presented along with simple algorithms for their reduction.

Updated with increased focus on the effects of globalization, this text presents the timeless principles of information systems in an understandable and memorable context.

The Bulletin of the Atomic Scientists is the premier public resource on scientific and technological developments that impact global security. Founded by Manhattan Project Scientists, the Bulletin's iconic "Doomsday Clock" stimulates solutions for a safer world. Latent Inhibition and Its Neural Substrates describes a neural network model of attentional processes during associative learning, mainly latent inhibition, and shows how variables in the model can be mapped onto different brain regions and neurotransmitters. The result is a neurophysiological model capable of generating predictions and descriptions of numerous experimental results using latent inhibition, including the effects of brain lesions, drug administration, and the combination of both. The model also explains the absence of latent inhibition in acute schizophrenia and its reinstatement by the administration of psychotropic drugs.

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