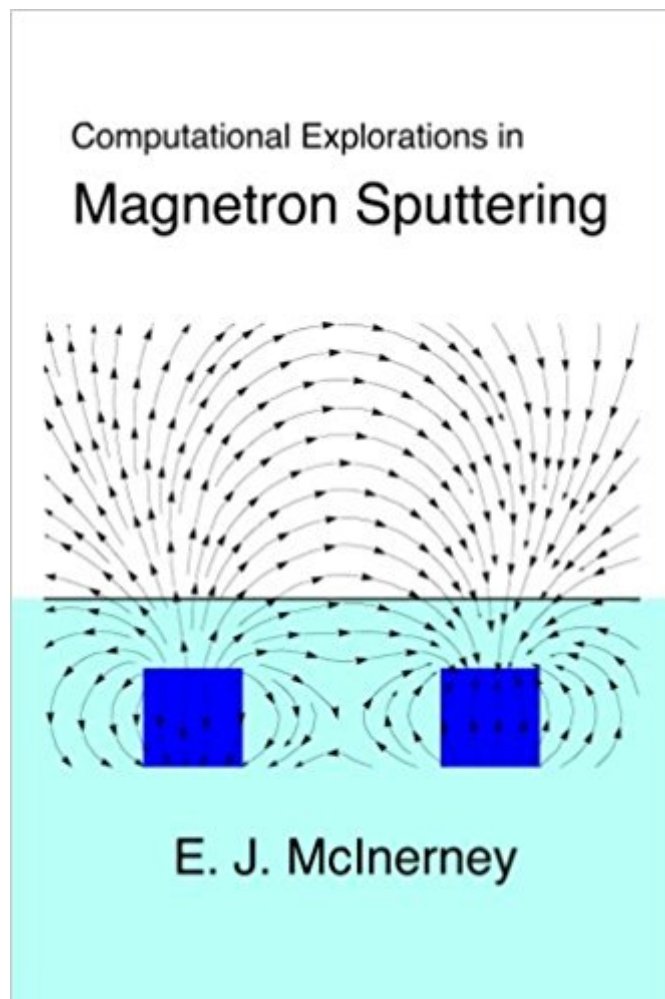




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Computational Explorations In Magnetron Sputtering



Synopsis

Magnetron Sputtering is a widely used industrial process for depositing thin films. PVD films are found in everything from the moisture barriers in potato chip bags to the interconnects of modern semiconductor devices. This book walks you through the physics of Magnetron Sputtering in a step-by-step fashion. Starting with the magnetic fields crucial to efficient operation, the book then looks at the electric fields that power the sputter process, the motion of electrons in the plasma, target erosion and finally deposition. The reader is encouraged to explore this fascinating topic by actively following along. A series of simple computer models is developed, ultimately leading to predictive models of target erosion and deposition uniformity. By working through these models, readers can build their intuition of PVD processes and develop a deeper appreciation of the underlying physics.

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Customer Reviews

Jack McInerney is a senior staff scientist in the Computational Modeling group of Lam Research. His computational explorations have ranged broadly from barbecuing meat to plasma physics. He has authored over 30 technical papers and holds more than a dozen patents.

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