Synopsis
Pulls together all the relevant concepts in this field. Volume 5 builds upon the material previously covered in the series and contains references for further reading. For advanced students, industrial researchers and E.E. professionals.

Book Information
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Customer Reviews
Its a small book of around 250 pages that deals specifically with non-equilibrium MOS devices and gives in great detail the physics that goes behind the construction of the SRAM and DRAM. The part on DRAM deserves special mention, I cant recollect any other text that so clearly elucidates its structure - drawing comparisons between charge coupled devices which it resembles partly and basic design of the one transistor cell as the circuit element. It firmly drives home the point as to why a refresh cycle is essential in dynamic RAM by pointing out the inherent non-equilibrium condition of the MOS capacitor and its spontaneity to move into a more stable regime due to electron-hole pair generation that tends to fill up the depleted potential well under the storage gate. And if you want to get a simple yet detailed view of advanced MOS concepts by slightly side-stepping quantum phenomena, the last chapter of the book does that very well. Since no ‘inside-search’ on the book is available here on, I shall in brief mention the chapters for the benefit of the interested reader. Ch1. MOS and generation-recombination phenomena, Ch2. Material and Device Characterization, Ch3. Charged Coupled Devices, Ch4. Charged Coupled Devices Applications,
Ch5. Semiconductor Memories, Ch6. Advanced MOS concepts. The chapter on semiconductor memories will not offer detailed circuit descriptions and is more bent on the physical processes that govern their operation. To sum all of these, this book will give you material on non-equilibrium or deep-depletion MOS devices. Equilibrium MOS concepts and applications are not covered here.

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