

Editorial



First of all, it is a great honor and pleasure for me to serve as a guest editor of this special issue of JSTS 2008. In this special publication, 10 excellent papers were submitted to discuss about scientific and technical issues on non-volatile memories such as phase change random-access-memory (PRAM), nano-floating gate random-access-memory (NFGM), tunneling barrier random-access-memory (TBM), polymer random-access-memory (PoRAM), ferroelectric-field effect random-access-memory (FFM), and resistive-change random-access-memory (ReRAM).

As you know, non-volatile memories described above are expected to be commercially used within several years because current memory technologies such as DRAM and NAND flash memory are facing a volatile characteristic and a scalability limit, respectively. In this special issue, Dr. B.Cheong reviewed the current development status of a highly scalable and high-speed PRAM. Prof. J.Lee, E.Kim, and K.Park presented three papers on NFGM fabricated with silicon and metal nano-crystals. Prof. W.Cho reviewed the recent technical issues on TBM. Prof. J.Park and U.Paik presented two papers about PoRAM fabricated with conductive small-molecular and polymer. Prof. C.Park reviewed the recent development activity for FFM. Finally, Prof. H.Hwang and J.Hong reviewed material issues about ReRAM. The aim of this special issue is to explore the progress obtained during recent years in the main stream of non volatile semiconductor technologies for terabit-level memory in view of scientific and technical achievements. I would like to express my deep gratitude to all the authors for having submitted high-quality papers to this special issue.

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