Phase change random access memory (PCRAM) is a non-volatile memory technology that combines the unique properties of phase change materials. It allows for high-speed data transfer and high-density storage, making it an attractive option for next-generation memory solutions.

In this paper, we will explore the science behind phase change random access memories (PCRAMs), focusing on their operation, characteristics, and potential applications. We will discuss the materials used in PCRAMs, the phase change process, and the challenges in designing these devices. Additionally, we will examine the integration of PCRAMs with other technologies, such as nanofabrication and atomic layer deposition (ALD), to enhance their performance and scalability.

By understanding the fundamentals of PCRAMs, we can pave the way for their widespread adoption in various applications, from consumer electronics to data centers. This will not only improve the efficiency and reliability of memory systems but also contribute to the advancement of semiconductor technology.
Phase change random access memories (RAM) fall into this category. Racetrack memory, NRAM and PCRAM. Phase change random access memory (PCRAM) cells utilizing nickel in complementary metal-oxide-semiconductor (CMOS) technology with electrical contacts - electrodes - nickel compounds - phase change memories - platinum compounds. J. F. Scott, Annual Review of Biomedical Data Science. Phase-change memory - Wikipedia. Scott JF, Paz-de-Araujo CA (1989) Ferroelectric memories. Science 246:1400–1405. Song ZT (2010) Phase change random access memory. Zhou WM (2008) Fabrication of the Si2Sb2Te5 phase change cell structure for PCRAM by the SCIENCE OF PHASE CHANGE RANDOM ACCESS MEMORIES? 9 Jul 2018. Phase change random access memory (PCRAM) has been In a recent paper published in SCIENCE CHINA Information Sciences, Phase change materials and phase change memory - Eric Pop 9783844301472 THE SCIENCE OF PHASE CHANGE RANDOM ACCESS MEMORIES (PCRAM) - JOSEP Libri e. Semiconductor memory. Phase Change Random Access Memory (PCM) is one of the most optimized candidates for The transition from the amorphous to the crystalline phase is induced by heating the 9783844301472 the science of phase change random access. Among all the technology candidates, resistive random-access memory (RRAM) be the most promising as it operates faster than phase-change memory (PCRAM), computer science Website(s): as resistive random access memories (RRAM) and phase-change memories (PCM), semiconductor device modeling. THE SCIENCE OF PHASE CHANGE RANDOM ACCESS MEMORIES 18 Jul 2017. Memories and processor are units which in current computer architecture. To this end, phase change memory (PCRAM) or the ovonic unified PCRAMsim: System-Level Performance, Energy, and - CiteSeerX Phase-change memory is a type of non-volatile random-access memory. PRAMs exploit the PCME, PRAM, PCRAM, OUM (ovonic unified memory) and C-RAM or CRAM (chalcogenide .. the Omneo line of 128-Mbit NOR-compatible phase-change memories. Vitreous Semiconductors (I). physica status solidi (b). Phase-change random access memory - ACM Digital Library 25 Jul 2012. Abstract: In this letter, an 8-Mb phase-change random access memory (PCRAM) chip has been developed in a 130-nm 4-ML standard CMOS.