1. Record Nr. UNINA9910373937403321 Autore Rajab Mohammed Titolo Channel and Source Coding for Non-Volatile Flash Memories [[electronic resource] /] / by Mohammed Rajab Wiesbaden:.: Springer Fachmedien Wiesbaden:.: Imprint: Springer Pubbl/distr/stampa Vieweg, , 2020 **ISBN** 3-658-28982-1 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (153 pages) Collana Schriftenreihe der Institute für Systemdynamik (ISD) und optische Systeme (IOS), , 2661-8087 Disciplina 004.5 Soggetti Data structures (Computer science) Computers Electrical engineering Data Structures and Information Theory Information Systems and Communication Service **Electrical Engineering** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Reduction of the Write Amplification Effect by using Data Compression Scheme -- Error Correcting Code and Offset Calibration for NAND Flash Memory -- Soft Input Decoding for Generalized Concatenated Codes (GCC). Sommario/riassunto Mohammed Rajab proposes different technologies like the error correction coding (ECC), sources coding and offset calibration that aim to improve the reliability of the NAND flash memory with low implementation costs for industrial application. The author examines different ECC schemes based on concatenated codes like generalized concatenated codes (GCC) which are applicable for NAND flash memories by using the hard and soft input decoding. Furthermore, different data compression schemes are examined in order to reduce the write amplification effect and also to improve the error correct capability of the ECC by combining both schemes. Contents Reduction

of the Write Amplification Effect by using Data Compression Scheme Error Correcting Code and Offset Calibration for NAND Flash Memory

Soft Input Decoding for Generalized Concatenated Codes (GCC) Target Groups Lecturers, students and practitioners in the field of Channel Coding, Source Coding and NAND Flash Memory The Author Mohammed Rajab has a B.S. in Information Technology and a M.Sc. in Computer Science in 2011 and 2014, respectively. Since 2014 he is scientific assistant at the Institute of System Dynamics (ISD) at the University of Applied Sciences in Konstanz, Germany. He received his PhD in computer science and engineering in July 2019 from Ulm University. His main areas of research interest are signal processing for communication systems, data compression and channel coding in non-volatile memories.