1147-05-77 **Yuichiro Fujiwara*** (yuichiro.fujiwara@chiba-u.jp), 1-33 Yayoi-Cho Inage-Ku, Division of Mathematics and Informatics, Chiba University, Chiba, 263-8522, Japan. *Parity-check matrices for error-erasure separation and X-codes.*

An error-erasure channel is a natural noise model of unreliable information transmission in which both symbol substitutions and erasures may occur. It is known that a well-designed parity-check matrix can separate errors and erasures in the sense that it allows for correcting errors first and then fixing erasures by a two-step syndrome decoding method. We give tighter bounds than known ones on the size of a parity-check matrix with this property and show its close relation to a problem of data compression for VLSI testing. (Received November 30, 2018)