1078-94-187   **Pascal O. Vontobel***, Hewlett–Packard Laboratories, 1501 Page Mill Road, Mailstop 1181, Palo Alto, CA 94304. *Approximately counting the number of constrained arrays via belief propagation.*

Reliable data communication and storage can be achieved with the help of error-correction codes and constrained codes. In this talk we focus on constrained codes for data storage, in particular on a setup which requires that every codeword is a zero-one array that satisfies certain row and column constraints. A key quantity is the number of codewords, and we investigate how well this number can be approximated with belief-propagation-based techniques. (Received December 06, 2011)