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C Sinan Gunturk* (gunturk@cims.nyu.edu), 251 Mercer Street, New York, NY 10012. *On the Linear Discrepancy of Convolution*. Preliminary report.

Linear discrepancy is a combinatorial object that measures how well solutions of a linear equation can be rounded to neighboring integer vectors. We analyze a class of rounding algorithms based on error diffusion that yield good upper bounds for the linear discrepancy of smoothing-type convolution operators. We also discuss various problems that arise as the space dimension is increased from one to two and higher. (Received September 19, 2005)