1046-68-951   **Sergey Yekhanin*** (`yekhanin@microsoft.com`), 1065 La Avenida, Mountain View, CA 94043.
Locally decodable codes.

A q-query Locally Decodable Code (LDC) is an error-correcting code that encodes n-bit messages x to codewords $C(x)$, such that one can probabilistically recover any bit x_i of the message by querying only $q \ll n$ bits of the codeword $C(x)$, even after some constant fraction of codeword bits has been corrupted. The goal of LDC related research is to minimize the length of such codes.

In this talk we review the current state of the art in locally decodable codes with emphasis on the recent breakthrough algebraic constructions. (Received September 12, 2008)