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Nota di contenuto	Freud weights -- Approximation with general weights -- Varying weights -- Applications.
Sommario/riassunto	A new construction is given for approximating a logarithmic potential by a discrete one. This yields a new approach to approximation with weighted polynomials of the form $w_n(x) = \sum_{k=0}^n P_k(x)$ (where $P_k$ is a polynomial of degree $k$ ). The new technique settles several open problems, and it leads to a simple proof for the strong asymptotics on some $L^p$ (uppercase) extremal problems on the real line with exponential weights, which, for the case $p=2$ , are equivalent to power-type asymptotics for the leading coefficients of the corresponding orthogonal polynomials. The method is also modified to yield (in a sense) uniformly good approximation on the whole support. This allows one to deduce strong asymptotics in some $L^p$ (uppercase) extremal problems with varying weights. Applications are given, relating to fast decreasing polynomials, asymptotic behavior of orthogonal polynomials and multipoint Padé approximation. The approach is potential-theoretic, but the text is self-contained.