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**Xiaoping Shen\*** (shenx@ohio.edu), Athens, OH 45701. *Digital signal representation with Slepian series*. Preliminary report.

The theoretical aspects of prolate spheroidal wave functions(Slepian functions) as the solution of energy concentration problem have been known for over forty years. In this talk, we give a brief review of Slepian functions and then report the recent numerical results on the Slepian series expansion for digitized signals. (Received November 24, 2010)