1027-33-163   **Suat Namli*** (`namli@math.lsu.edu`), Mathematics Department, Louisiana State University, Baton Rouge, LA 70803. *Multiplicative Renormalization Method for Orthogonal Polynomials.*

We use an idea from white noise analysis for the study of orthogonal polynomials. We demonstrate an alternative to the classical Gram-Schmidt process to find the orthogonal polynomials for a given measure, with motivation from infinite dimensional white noise analysis. Instead of finding the orthogonal polynomials recursively as described in the Gram-Schmidt process, we analyze different types of generating functions systematically and come up with polynomials after power expansion. This work also produces the Jacobi-Szego parameters easily and hence one can work on the one-mode Interacting Fock Spaces related to these parameters. We have verified the classical measures and corresponding orthogonal polynomials and we found some new measures which generalize the Wigner distributions such as:

$$d\mu(y) = \frac{1}{pi} \frac{A\sqrt{1-y^2}}{A^2 + B^2 - 2B(1-A)y + (1-2A)y^2}$$