1046-Z1-1116 **Daniel Joseph Galiffa*** (`Da786917@pegasus.cc.ucf.edu`). *The Sheffer B-Type 1 Orthogonal Polynomial Sequences.* Preliminary report.

In 1939, I.M. Sheffer proved that every polynomial sequence belongs to one and only one *type*. Sheffer extensively developed properties of the *B-Type 0* polynomial sequences and determined which sets are also orthogonal. He subsequently generalized his classification method to the case of arbitrary *B-Type k* by constructing the generalized generating function $A(t)\exp\left[xH_1(t) + \cdots + x^{k+1}H_k(t)\right] = \sum_{n=0}^{\infty} P_n(x)t^n$, with $H_i(t) = h_{i,i}t^i + h_{i,i+1}t^{i+1} + \cdots$, $h_{1,1} \neq 0$. Although extensive research has been done on characterizing polynomial sequences, no analysis has yet been completed on sets that are type one or higher ($k \geq 1$). We present a preliminary analysis of a special case of the *B-Type 1* ($k = 1$) class, which is an extension of the *B-Type 0* class, in order to determine which sets, if any, are also orthogonal. In this work the utilization of computer algebra packages is indispensable, as computational difficulties arise in the *B-Type 1* class that are unlike those in the *B-Type 0* class. (Received September 14, 2008)