1125-60-1887 **Jerzy Szulga*** (szulgje@auburn.edu), Department of Mathematics and Statistics, Auburn University, Auburn, AL 36849. *Operators on discrete random chaos modeling quantum phenomena.*

Discrete random chaos, a.k.a. Walsh series (discrete harmonic analysis) or **toy Fock space** (quantum physics), is just an algebra spanned by Rademacher random variables, becoming a specifically structured Hilbert space. The plethora of operators, such as Parthasarathy's conservation, creation, and annihilation operators, discretized by Paul-Andre Meyer (or other such as discrete Malliavin derivative or Ornstein-Uhlenbeck operators), can be expressed algebraically by compositions of two simple symmetries. The compositions form a **signed group**, where all elements either commute or anticommute, and are square roots of either 1 or -1 (defining **signature**). Any (at most countable) signed group can be embedded isomorphically into the aforementioned symmetry group, which also possesses a patterned matrix representation. The spanning symmetries are simple contractions but not Hilbert-Schmidt operators. Yet they can be endowed with a Hilbert space structure via so called **rigged Hilbert space**. The arising patterns are classified with respect to commutativity/anticommutativity properties as well as in regard to signatures. (Received September 19, 2016)