

# Algebraic Quarks from the Tangent Bundle: Methodology

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**Abstract.** Previously we developed a table of components of algebraic solutions of inhomogeneous proper-value equations. We reproduce the table here. It looks as if it were a representation of real-life quarks. We did not consider all solutions of the system of equations that gave rise to it, but only for proper value zero. We shall not, therefore, claim that the present distribution of those components as a well ordered table has strict physical relevance. It, however, is of great interest for the purpose of developing methodology, which may then be used for solutions pertaining to other proper values and concomitant structuring of components. We insert into our present table concepts that parallel those of the phenomenology of high energy physics (HEP): generations, color, flavor, isospin, etc. Breaking then loose from that distribution, we consider simpler alternatives for quarks of primary color (The mathematics speaks of each generation having its own primary color). They are used to show how stoichiometric argument allows one to reach what appear to be esthetically appealing idempotent representation of particles other than electrons and positrons, which Kahler already provided half a century ago with idempotents related to those for our hypothetical quarks. We use neutron decay to obtain formulas for neutrinos and the  $Z_0$ , and also formulas for gamma particles from pair annihilation. We finally go back to the aforementioned system of equations and start to develop the alternative option of allowing the proper value to be different from zero. We solve the system of equations for this new option but stop short of studying it along the lines of the present paper. This would be an easy entry point to this theory for HEP physicists. Their knowledge of the phenomenology will allow them to go faster and further.

## References

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