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Ferro chemistry, its laws and carbon with the relativistic emergence of luminous quantum mechanics from super luminous classical mechanics with local violation of 2nd law of thermodynamics

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Carbon is unique among the elements. The bosonic, low-shielded 12C nucleus and fermionic, highly charged, half-filled electronic shell and subshell contribute to different, metastable hybrid quantum fields for chemical bonding: with resulting difficult autocatalyzed rehybridization dynamics; with consequent special natures and applications of carbon's allotropes and polymorphs and the myriad of important chemical compounds for possible complex mixtures for life; and with chemical history of the struggle to transform and transport among these elements, compounds and mixtures. This plenary highlights the journey of RBL since 2000 to establish a new chemistry of ferrochemistry on basis of the Little Effect (spin and magnetic alterations of orbitals) for new solutions of special importance to carbon chemical transformations with broad relevance to other elements. This presentation further outlines consequent discoveries: Laws of Ferrochemistry; ferromagnetic carbon; magnetic, electric and luminous nature of wavefunctions; spatial nature of fields, field nature of particles and hidden superluminous quantum continua for quanta to magnetic to gravitational to electrical to thermal field transformations and transports (locally violating laws of classical thermodynamics for the emergence of quantum from classical mechanics relativistically); spinrotorbitals and spinrevorbitals for time crystallization and accelerated temporal patterns for recrystallizing time, respectively; single domain ferrochemistry with distinct decomposition and composition chemistry at different magnetic poles with possible superfluidity and superconductivity between the poles via large exchange gradients; selective preparations of various spin rotorbitals and changing spin rotorbitals for spin revorbitals for ferro chemistry for the first, correct free standing graphene formation and stability in plasma at over 3000 Celsius on magnetic field lines, for macroscopic single crystal diamond synthesis under stronger magnetization, and for driving alterations of spin rotorbitals (time crystals) via microwaves, strong magnetic fields, radiofrequency waves and complex chemical fields and waves as in mixtures of weak acids weak bases (as in biochemicals for physics of life).

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Fabrication and mechanical properties of Al-SiC-B4C metal matrix composite via powder metallurgy

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The Aluminium metal matrix has wide application in automobile, aerospace, sports and structure. Generally Al metal matrix composites are formed by powder metallurgy and direct casting technique. The powder metallurgy is a method in which composites are formed by mixing the elements with different chemical properties in metal matrix. This technique provides a good chemical homogeneity to final product, huge potential saving in case of mass production, high production rate and excellent wear resistant properties of component produced. Now in this research the three samples powder with following composition i.e (90% Al 7% SiC 3% B4C, 90% Al 5% SiC 5% B4C , 90% Al 3% SiC 7% B4C) with proper mixing and compacting by taking three compaction load of 3,4 and 5 ton, were taken for the evaluation of mechanical properties such as green and sintered densities, hardness, XRD etc. after analyzing the different properties it is seen that both green and sintered densities increases with increase in amount of Boron carbide but these are found to be maximum for 90% Al 5% SiC 5% B4C composition. XRD analysis is also done that showed equiaxed powder structure.

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