

W0035

On Relativistic Field Effect with 6d Atoms in Diamond Growth and Synthetic Fuels Synthesis. Boris Udovic, via Timignano 42, 34128 Triest, Italy, boris.udovic@email.si

Some synergic phenomena promote the surface thorium carbide atoms to be converted in a metal cluster and CH_x fragments to gain suitable fuel synthesis without undesired carburization reactions. The extent of the influence of full filled and more diffuse $4f$ and $5d$ orbitals reaches beyond the volume of their cloud-kernel. The variant properties of the radial electric field E of a charged particle towards Lorentz transformations give the transverse component $[(1-v^2/c^2)^{-1/2}]E_{\perp}$ acting along the crosswise direction of moving electrons in the fashion $\gamma E_{\perp}/E_{\parallel}=\gamma tg\varphi$ to produce a stronger field $(E_{\parallel}^2+\gamma^2 E_{\perp}^2)^{1/2}$ and higher charge density $\gamma\rho$ at the frontier orbital surface area when the charged particle “turn-over”. A more intense repelling Pauli field from thorium lobes is expected to torque the vicinal “free valence” carbon orbital, the still pure p_z to change his shape and to take on more s -character into a sp^n pyramidal rehybridization ($n\rightarrow 3$). The pyramidalization of carbon ad-atoms bring out the key step in diamond phase synthesis. On the other hand, most of $3d$ and $4d$ transition elements experience the tendency toward π bond formation between their unfilled d orbitals and carbon ad-atoms to generate orthogonal electronic wave functions for all other competitive electronic states. The symmetry of synergically generated $2p\pi$ -wave function is self-reproducing and self-propagating by spreading through the spatial extent of delocalized π -bonds into graphite phase of incoming ad-atoms. Remarkably, the synthesis reaction path-ways supported by Ni, Co etc. catalysts are plagued by carbon nanotube overgrowth.