Processing and Manufacturing Technologies for Large Scale Preparation of Carbon Based Hierarchical Nanostructures

To perform multiple performance objectives, the carbon-based nanomaterial needs the modifications. DMSRDE Kanpur has established a simple scalable process for controlled site-specific functionalization on the surface of different low dimensional. The selection of functional moieties to obtain multi functional nanomaterials is extremely critical to tailor the physical and chemical properties compared to the contemporary materials. Generally, the structure of carbon nanomaterials is highly stable and chemically inert, controlling the degree of surface derivatization of nanotube is thus remain a significant challenge to achieve the desired properties. The number of functional groups on the surface of nanomaterials could be restricted by optimizing the reaction parameters and external stimuli however the different aspect ratios in the material system make the task even more daunting. It is thus necessary to follow a convenient method for controlled functionalization of nanostructures. DMSRDE, Kanpur has established the process for making large scaled multi functional nanomaterials where the position and degree of functionalization were preciously controlled for desired physical and chemical properties. An increase in the system-level efficiency and multi functionality of products and components is one of the main advantages of the use of these specially designed materials and structures.