

Current Research verticals at DIA-CoE IIT(BHU)

The mandate of DIA-CoE is directed basic and applied research in Powder Metallurgy, Electronic and Functional materials, and High Power Microwave Sources and Devices.

Based on the present needs and opportunities available, research verticals have been identified to take up projects in different areas as part of a broader objective to make the country self sufficient in strategic areas.

Powder metallurgy: Indigenous design and development of IGA/PREP or other powder production equipment, additive manufacturing (AM) grade powders, modeling, simulation and experimental validation of powder production, Computational modelling and simulation for AM, numerical studies/ investigation of material properties of metals and alloys developed through AM; functionally graded material/ composites, ceramics, glass ceramic composites, tungsten heavy alloy development ; synthesis of ceramic powders etc.

Electronic and Functional Materials: High thermal conductivity lossy materials, RF filters/phase shifters for MW, high purity SiC material, polymer based high temperature adhesives, lower corrosive, lower weight and higher damping materials for electronics/ structural applications, modelling of endothermic fuels, organic-inorganic hybrid functional polymers etc.

High Power Microwave Sources and Devices: Components for High Power Microwaves, THz Gyrotron, Gyro-Klystron amplifier, EIK, and folded waveguided TWT amplifiers, single frequency PRF device, high voltage compact pulse power supply etc.

The aforesaid verticals are illustrative but not exhaustive; new vertical/areas depending on the interest and availability of related expertise at IIT (BHU) and other institutes may be taken up.

For a detailed enquiry, following may be contacted:

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