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(57) Abstract :
This method encompasses the formation of a diamond-based metal lattice structure characterized by strut junctions that are integrated with spherical nodes. The process involves sequentially depositing layers of metallic powder, such as Ti6Al4V, and subsequently sintering these layers with a laser beam targeted at specific locations. This procedure is repeated until a node-reinforced metal lattice structure is achieved. Diamond lattice structures are structures built by repeating the diamond unit cell. The diamond unit cell is a unit cell with strut members disposed at 109.48o between all the strut members. These structures are ideal for lightweight components in windmill applications and biomedical implants, enhancing load-bearing capabilities and biocompatibility.

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