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Research topic - Additive manufacturing

Stream - Mechanical Engineering

Abstract -

Additive manufacturing is becoming a very popular fabrication technique for the rapid prototyping of low-cost in irregular dimension objects / prototypes also . This research activity aims in studying and designing on low-loss and reverse engineered components to be manufactured by 3D printing. The reduction in manufacturing loss can also be utilised for increasing material density, other factors in order to achieve higher quality factors and for commercial gains in manufacturing procedures .

Introduction and advantages on the proposed topic -

In the latest manufacturing technology additive manufacturing techniques have become very popular , since it provides the latest technology in especially - 3 D manufacturing process which includes fast prototyping , perfect resolution , and usage of complex shapes & geometries which cannot be easily done by other subtractive techniques / existing manufacturing processes.

Additive manufacturing is still one of the advanced manufacturing technologies the allows building any complex 3 D geometry of products by adding layers of materials. One of the most important plan is to manufacture a lattice structure inside product space in order to reduce the wastage of materials ,reducing its overall weight without reducing its mechanical, properties.

So the purpose of the project is mainly to develop and implement innovation in 3-D printing, which promotes low losses , frequent productions , economic usage of re engineering components .This project will work on improvement and close control in the manufacturing technology.

REFERENCES

E. MacDonald et al., "3D Printing for the Rapid Prototyping of Structural Electronics," Dec. 2014

R. Garg, I. Bahl, and M. Bozzi, Microstrip Lines and Slotlines, 3rd Edition,, May 2013.