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Abstract:
Technology has become a major part of everyday life for all of us, from our smartphones, headsets, wearable technology, tablets to implantable lifesaving medical devices and the premium features in the cars we drive. Each of these cutting-edge products is manufactured using advanced manufacturing technologies to meet with the customer's demand for customized products and services. Additive manufacturing (AM) (also known as 3D printing) is one of these advanced manufacturing techniques that has been revolutionizing the manufacturing industry rapidly in the last few decades. The development of this manufacturing process has removed manufacturing constraints significantly and widened freedom of design. The AM technique manufactures complex geometries with exceptional dimensional accuracy, including assemblies. This chapter presents an extensive review on the available additive manufacturing technologies, challenges involved and their various applications.