

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Poster Session (P)

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THE SOLUTION OF FUTURE SPACE TRANSPORT—THE PATENT ANALYSIS OF 3DP
TECHNOLOGY APPLICATION IN AEROSPACE

Abstract

Three-dimensional printing technology (3DP) is a rapid prototyping technology which is based on scatter/deposit manufacture idea. Firstly, the object shape was designed; secondly, the shape was scattered into layers; thirdly, the materials were formed into the designed object along a certain path. The 3DP technology is low cost, compact size, low noise, environmental friendly and material optional. So it has a great potential application in wide range of industries, particularly in aerospace industries. By Three-dimensional printer, the tools and accessory can be made, even the space station can be built in space, and the scraps can be recycled for other printing. As the technology matures, the high costs problem of space transport will be mitigated. In this article, the 3DP technology was studied through patent information. By retrieving and analyzing the 3DP technology patents, the trend, distribution, applicants' nationality were analyzed. The feasibility of manufacturing circuit boards, components, structures, battery, etc by 3DP technology was discussed. The direction of 3DP technology development was pointed out.