

SPACE SYSTEMS SYMPOSIUM (D1)
Innovative and Visionary Space Systems Concepts (1)

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THE CONCEPTUAL DESIGN OF AN INTERSTELLAR SPACECRAFT LONGSHOT II- THE
NEXT GENERATION

Abstract

Interstellar spacecraft are the future of space exploration. This paper presents the conceptual design of an unmanned interstellar spacecraft, Longshot II –The Next Generation, to reach Alpha Centauri System within a century. The paper also reviews Project Longshot which was a preliminary design study of an unmanned robotic probe to the Alpha Centauri system submitted as a part of National Commission of Space in 1987-88. Project Longshot II – The Next Generation is the Project Icarus Student Project. One of the purposes of Icarus Interstellar, which runs Project Icarus, is to develop and motivate a new generation of space scientists interested in space missions beyond our solar system. Thus the Project Icarus Student Project.

Project Longshot II – the Next Generation aims to evolve an improved engineering design using current and near future technology to move us closer to achieving interstellar exploration, by designing an unmanned robotic probe capable of delivering useful scientific data about the target star-system, associated planetary bodies, the distant solar environment and the interstellar medium. Subsystems and modules involved in designing Longshot II, and possible new technologies which can be used in realizing interstellar travel, will also be reviewed.

This paper is a submission of Project Icarus Study Group.