

SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FAR FUTURE (D4)
Contribution of Space Activities to Solving Global Societal Challenges (4)

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ASTEROID MINING POSSIBILITIES AND CHALLENGES IN THE FUTURE

Abstract

The expedited decrease of petroleum and myriad other minerals and natural resources accompanied by the ever growing energy demands has led to the need to come up with radical methods to quench the human thirst for an infinite supply of resources. With an increase in the funding and technological capabilities of the astronautics sector, the possibility of using outer space to supply the planet Earth with the resources it lacks. This paper deals with the concept of asteroid drilling in order to extract minerals from them. These minerals once mined can be sent back to Earth in automated pods to be fuelled by a part of the same fuel they would be carrying. This fuel would be refined by miniature refineries present on the asteroid or the in the pods themselves. The paper will take into consideration the basic aspects of the entire mission procedure including part of the drilling techniques and possibilities. This will not only help planet Earth be better equipped for tackling the problem of dwindling oil wells, but also help in possibly enhancing the research related to the origin of life on the Earth. Moreover, spin off technologies from realization of these activities would lead to increase in the eventual colonization of different planets along with interstellar and inter – galactic travel.