SPACE MINING using Nano-micro satellites

Discussion Group 3
SPACE MINING using Nano-micro satellites

• MAIN QUESTIONS TO DISCUSS

• What capabilities/technologies should they develop/have to space mining (power, onboard propulsion, adcs, thermal,...)

• How they can help space mining activities (can be primary or always secondary, e.g. just observation, just remote or onsite examination)
MISSION PLANING

• WHY?

• Select target
  • Astronomical Surveys
  • Catalogues
  • Orbital Dynamics
  • Pick a subset of easiest targets
  • What raw materials we needed?
  • Where do we need to use materials?
  • Consider Intermediate Lunar Demonstration Site
PRIORITIES (TECHNOLOGY)

- Sensors (first)
- Communications (2nd / Link Budget)
- Power (equal 2nd/ Research on the ground)
- Propulsion (3rd)
- Autonomous Operation
- System Budget Model (in parallel with 1,2,3)
Space Mining Activities

• 3D Printing Regolith (Silicates etc.)
• Develop Fabrication Concepts
• Resource Material Capture (Grind down asteroid to powder)
• Raw Material/Finite Product Transportation