DEVELOPMENT AND IMPLEMENTATION OF AN SLR AUTOMATIC SATELLITE ACQUISITION AND SIGNAL RECOGNITION SYSTEM

Proposed MTech Project

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2ND WORKSHOP ON SPACE GEODESY,

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PRESENTATION LAYOUT

1. Introduction and background
2. Making MOBLAS-6 autonomous
3. Design and Project Objectives
4. Parallel Development with S/LLR
5. Development Tools

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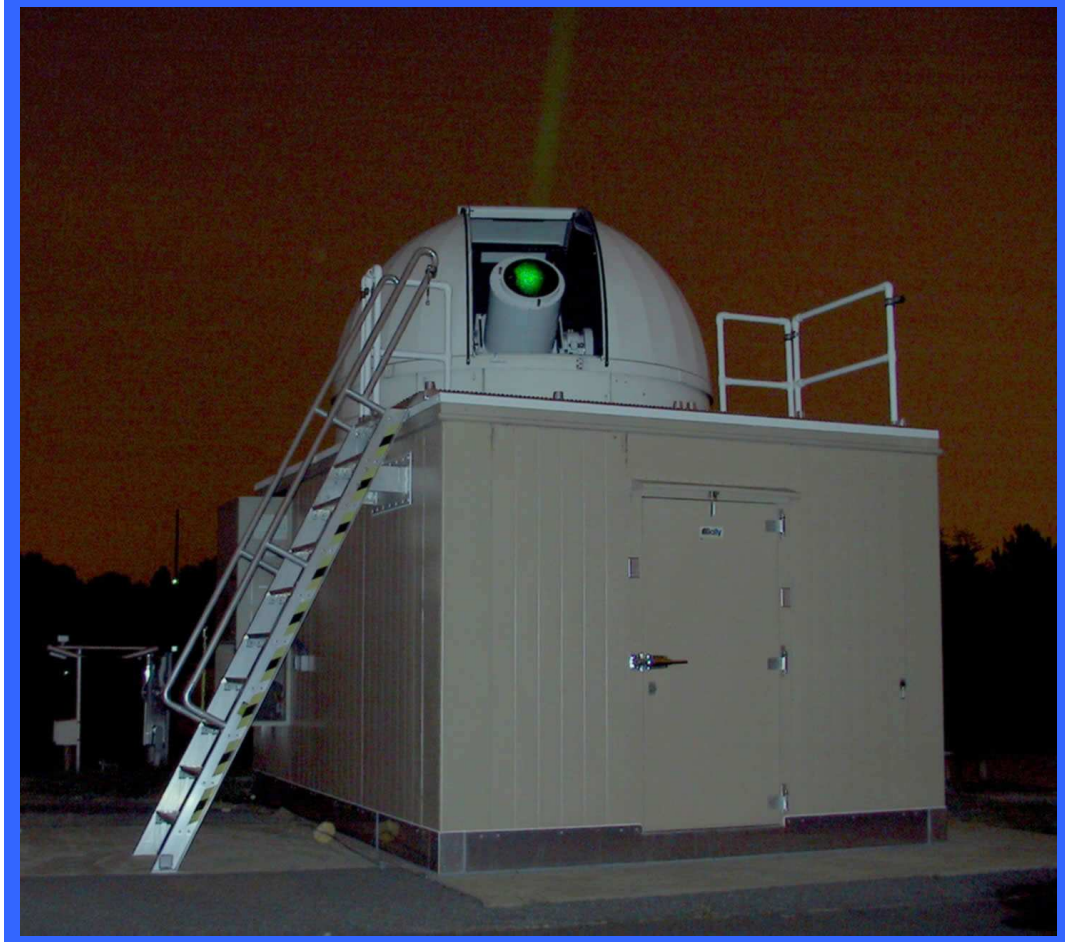
1. Introduction and background



- **NASA has embarked on an automation programme for its SLR network, this basically entails replacing all MOBLAS systems with a fully automated SLR system; SLR2000**

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2. Making MOBLAS-6 autonomous.

SLR2000 rationale:

SLR operations costs can be greatly reduced through increased reliability, standardization, automation, and maximum utilisation of commercial parts

BUT what about MOBLAS-6?

Can we improve it's efficiency and data acquisition latency by developing a hardware/software system to hunt automatically for satellites?

Currently tracking requires full human intervention

3. Design and Project Objectives

- Evaluate prototype designed and built by Johan Bernhardt
- Provide systems analysis of existing hardware to determine interface requirements
- Conceptualise prototype improvements and additional hardware
- Design modular hardware and software to enable utilisation on LLR system
- Implementation through system integration and testing phase

4. Parallel development with S/LLR

- During the development of the automatic acquisition system, close interaction with the S/LLR system will be maintained

- The design rationale will fully consider S/LLR requirements

- After implementation and testing on MOBLAS-6, a similar system will be implemented as part of the S/LLR tracking and steering system

5. Development Tools

- Labview software, (preferred environment for LLR)
- Off the shelf components (PCI-bus)
- PC based plug and play cards
- Limited in-house hardware construction

THE END!

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