DOPED POLY-CO MEASUREMENTS IN LOW EARTH ORBIT

REBELSAT / UNLV

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RebelSat is a team composed of 55 undergrad and graduate students at the University of Nevada, Las Vegas

PRESENTERS

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DEPUTY PROJECT LEAD

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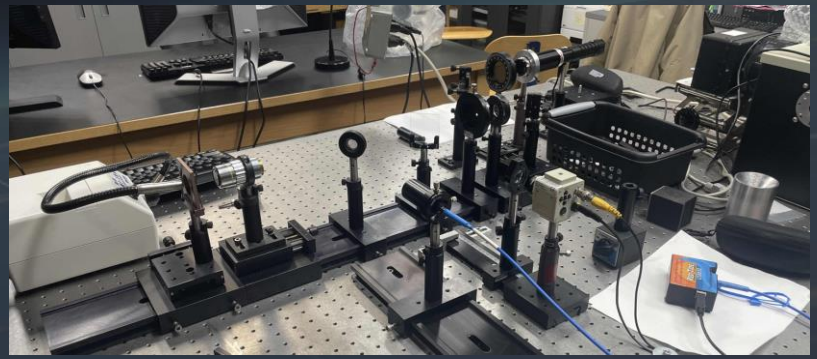
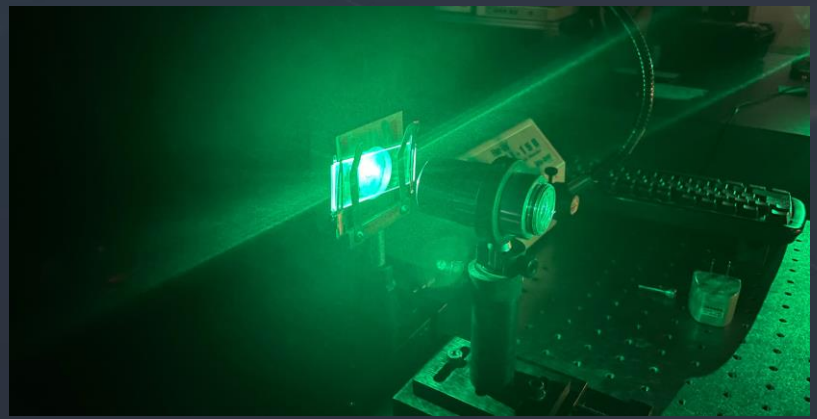
LEAD SYSTEMS ENGINEER

DOPED POLY-CO

- Stable irradiated solid carbon monoxide
- Wide band gap semiconductor
- Synthesized by Dr. Michael Pravica with HiPSEC and the Department of Physics at UNLV
- Photoluminescence test in low earth orbit (LEO)

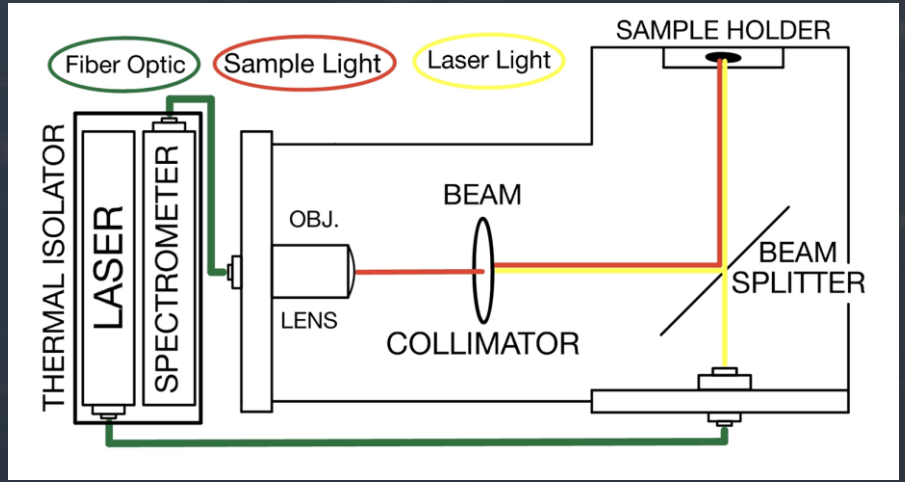




MISSION OBJECTIVE

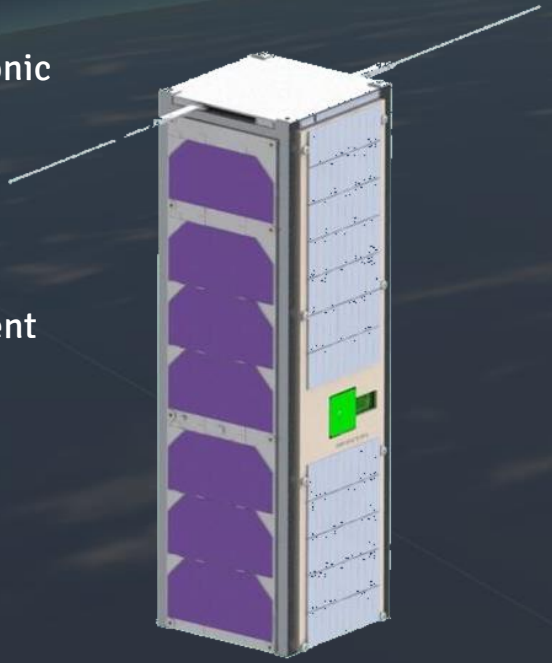
Doped Poly-CO shall remain stable in conditions of Low Earth Orbit, demonstrating its usability in such conditions.

- Photoluminescence spectroscopy
- Experiment execution
- Experiment requirements
  - Power draw
  - Data transmission
  - Material survivability



BENEFITS

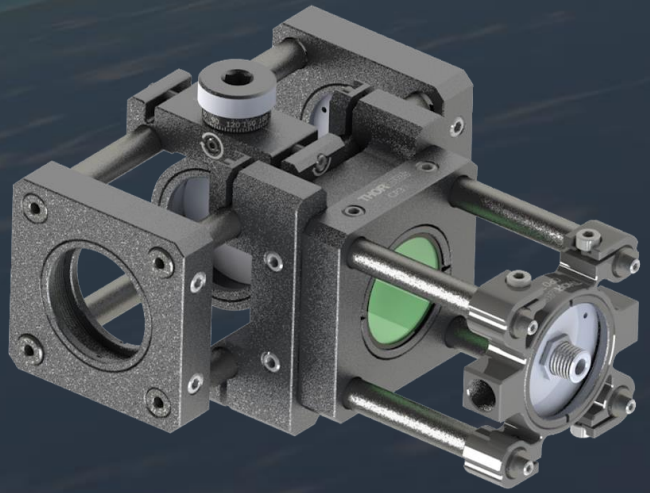
- Doped Poly-CO that could be a viable alternative to traditional electronic board materials.
- Lower cost of space hardware
  - GaN and Silicon and other materials can be costly
  - Big savings over the next few years
- If proven space rated, electronic components can become more efficient by using Doped Poly-CO

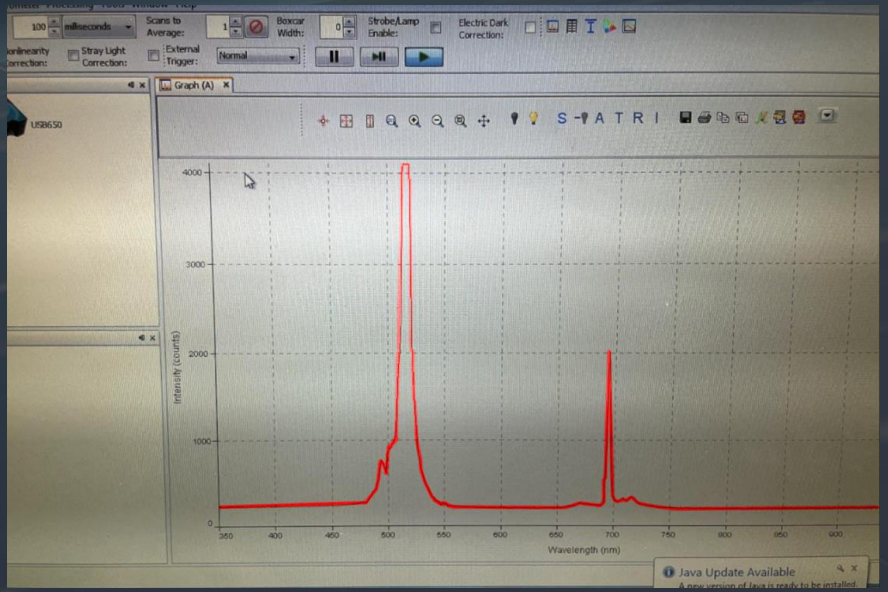


RS-1 Rendering

DEVELOPMENT CHALLENGES

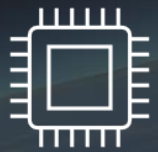
- Budget
- Low pass filter
- Ruby tests
- Optical cage





FUTURE STEPS

Further testing



FlatSat

Integration

Launch

Data Collection

THANK YOU

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