
Presentation Querétaro
"Perspective of a NASA Engineer"

Alfonso Feria
June 30, 2017

Education



UNAM

Universidad Nacional
Autónoma de México



Educación



Education

Forbes published an article in 2013 that states:

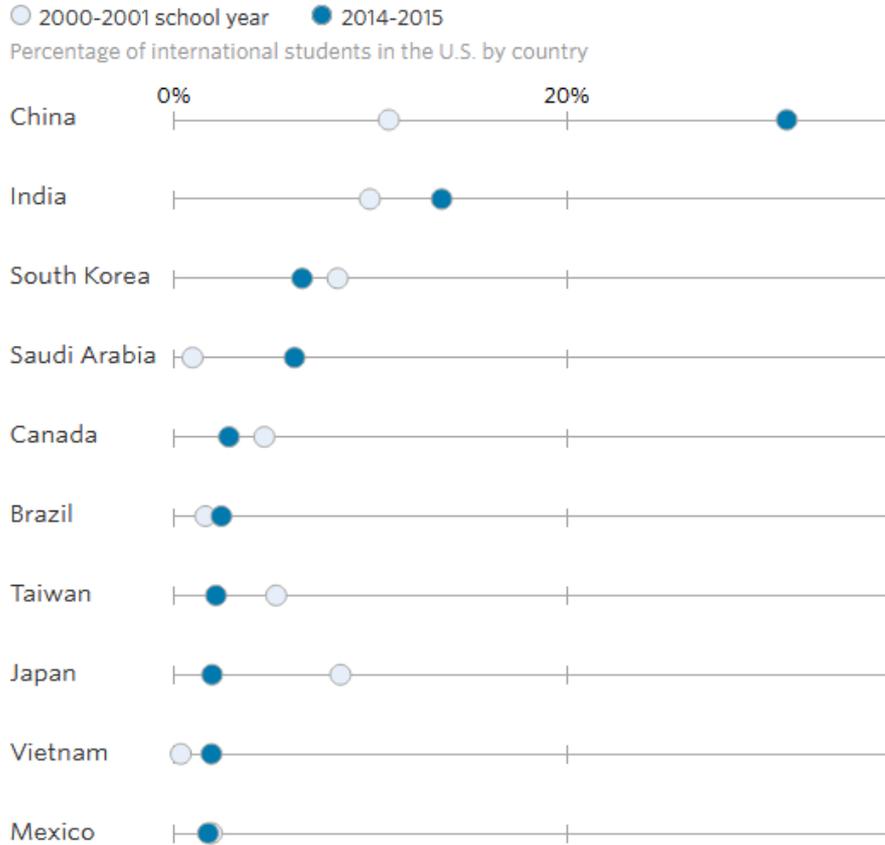
“International students account for 70 percent of the full-time graduate students (master’s and Ph.D.s) in electrical engineering. In computer science, international students make up 63 percent of the full-time graduate students. In industrial engineering, economics, chemical engineering, materials engineering and mechanical engineering more than half the full-time graduate students are foreign nationals. The numbers are even higher at some individual colleges, depending on the field.”

A report from 2012 from the NSF states:

“In 2009, 168,900 (almost 30% of the total) foreign students enrolled in graduate programs in science and engineering. The majority was in the areas of computers, engineering, physics, math and economy.”

Education

Where do students come from?



Source: Institute of International Education Open Doors Report, 2015

Where do money come from?

Percentage of total international student contribution to the U.S.



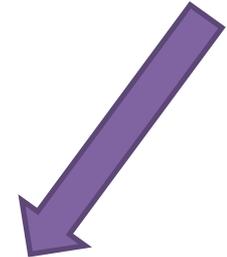
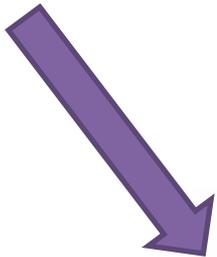
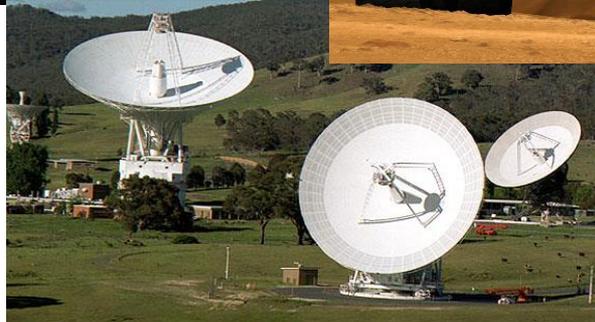
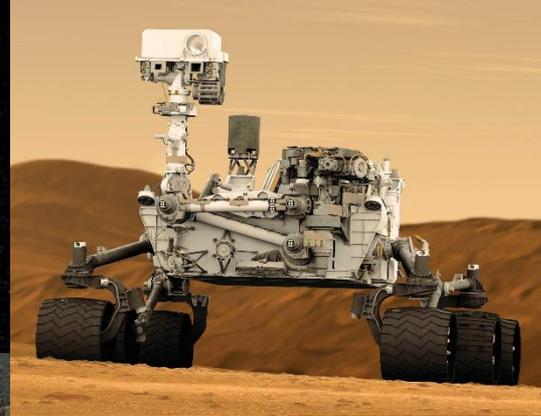
Source: Institute of International Education and Commerce Department

Employment

**COOPER** Power Systems



Employment



Jet Propulsion Laboratory

Employment

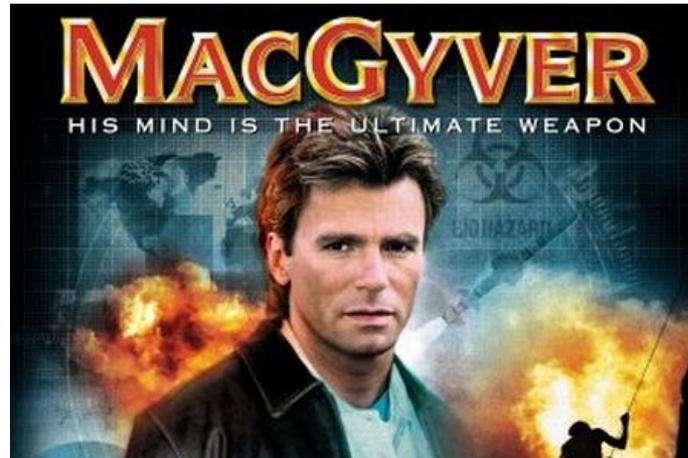


Universidad Nacional
Autónoma de México



Carlos Kasuga, founder of Yakult

“The principal advantage of Mexicans is that they have ingenuity that I have not found in any other place in the world.”

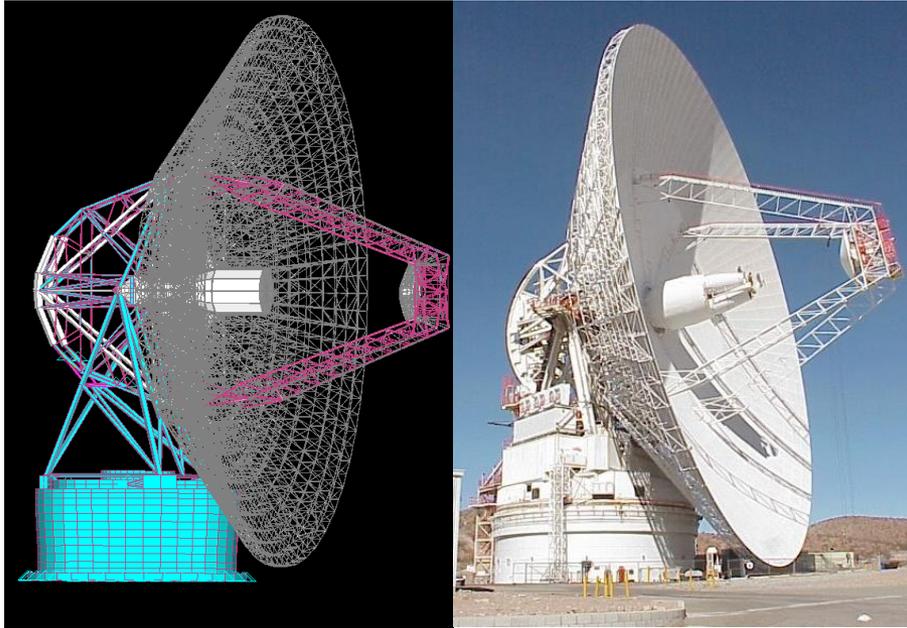


(Serie de TV de 1985-1992)

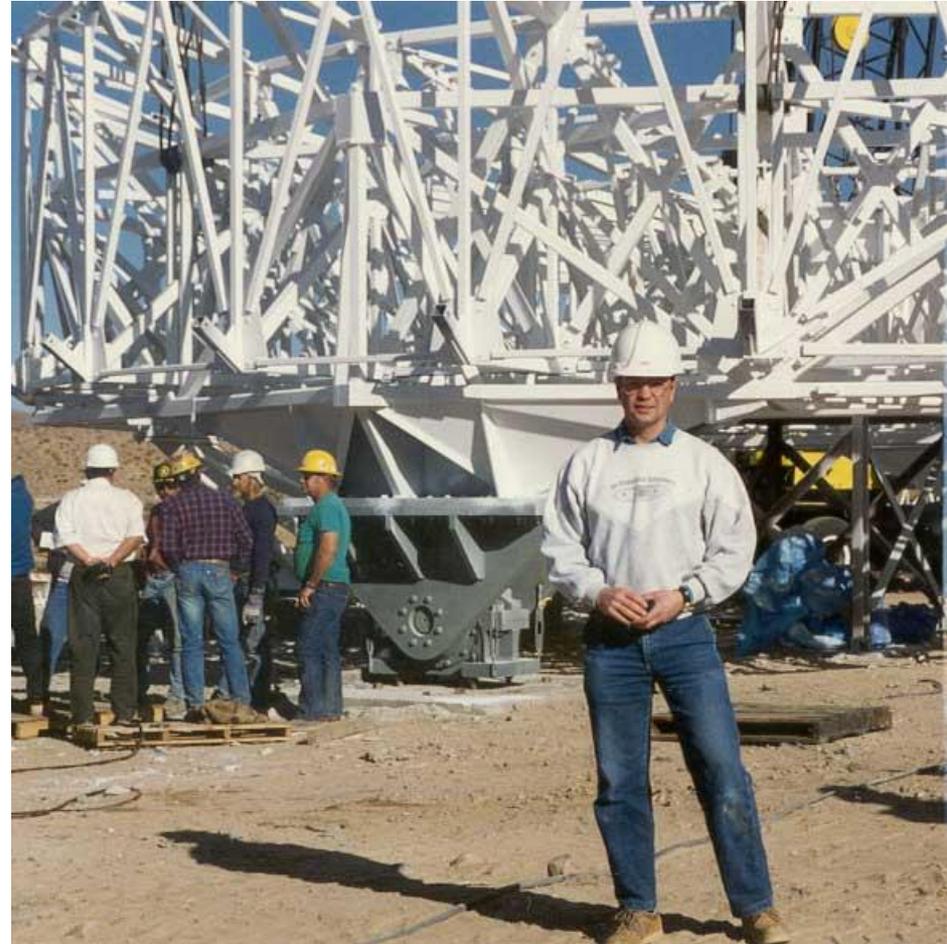
“We need to develop quality people based on four concepts:

- Well being
- Well done
- Well stay
- Well enjoyment

DSN



DSS14 – 70 Meter Antenna



DSS24 – 34 Meter BWG Antenna
Construction

AF-10

Apollo Site –
Goldstone
California

30-June-2017



34-Meter Antenna Project



DSS54 – 34 Meter BWG Antenna
Fabrication



February, 2017



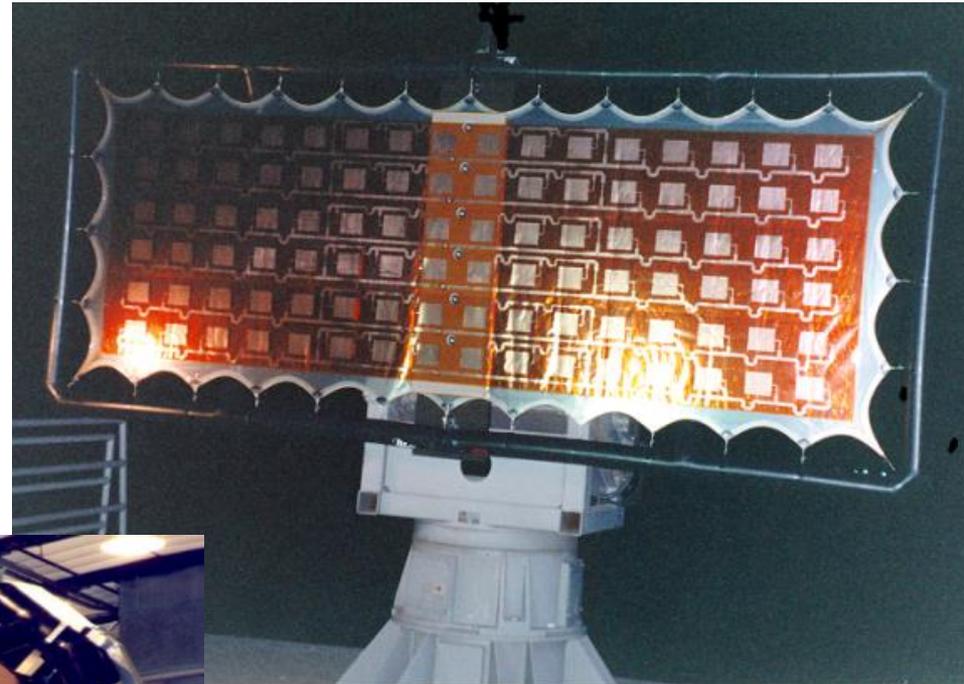
DSS34 – 34 Meter BWG Antenna Construction



Inflatable Structures



SAR – X Band



SAR – S Band



SAR – KA Band

DSN Antennas



Reflector Panel Fabrication, COSPAL, Italy



Bullgear Fabrication, Italy

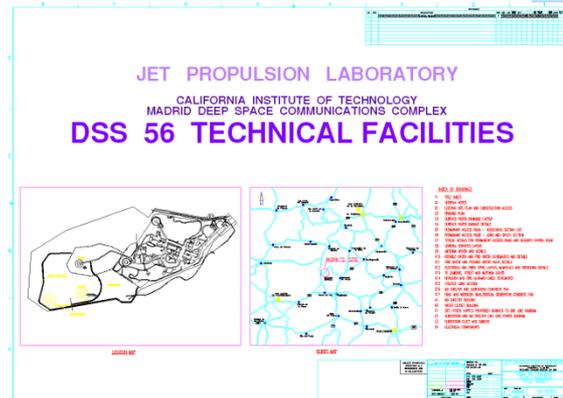


DSS-55, 34-meter BWG Antenna in Spain



DSS-45, 34-meter Cassegrain Antenna in Australia

February, 2017



LMT

Puebla, Mexico (4,600 altitude)

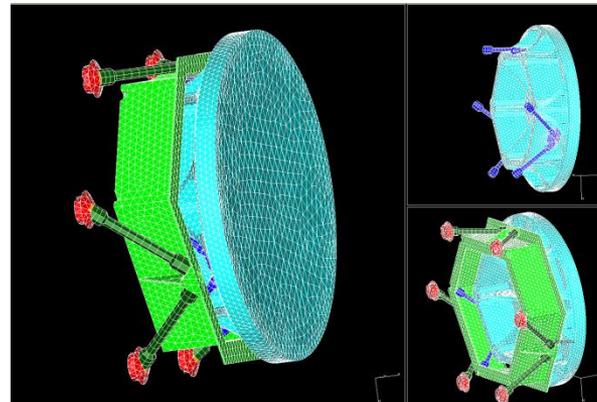
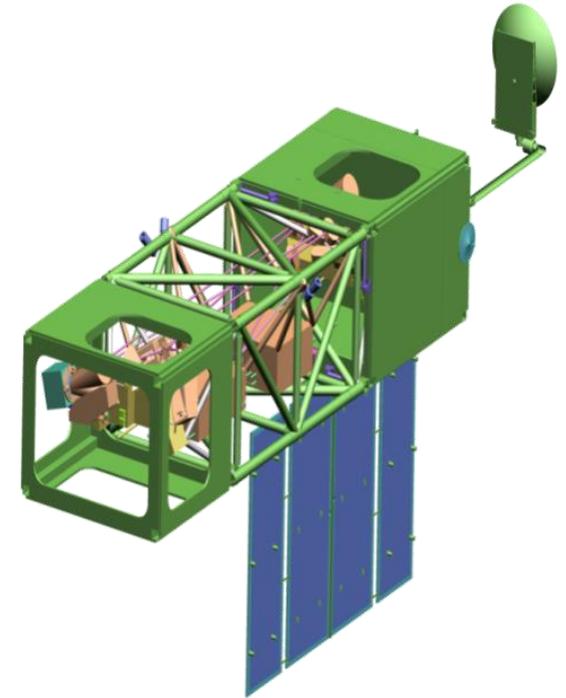
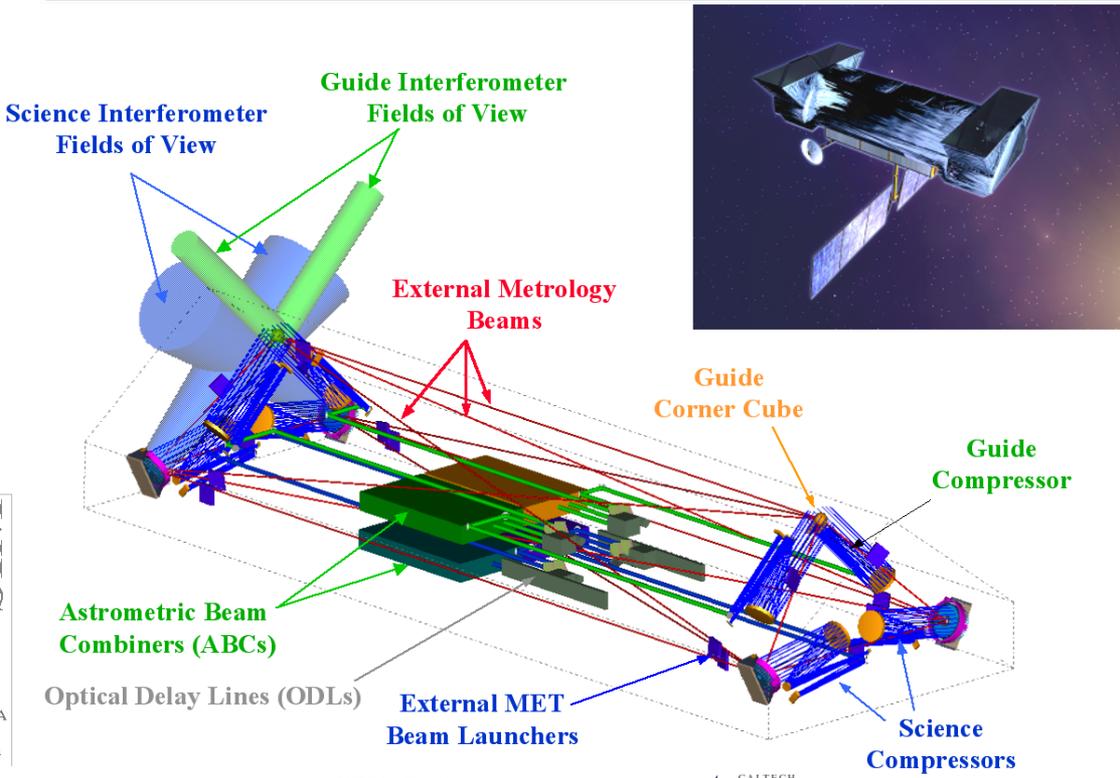


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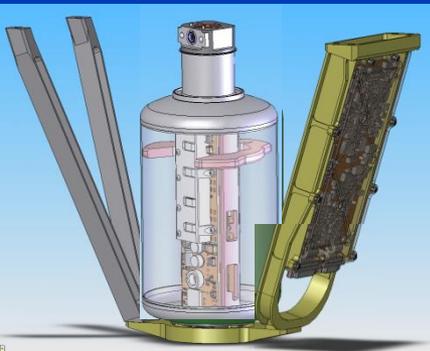
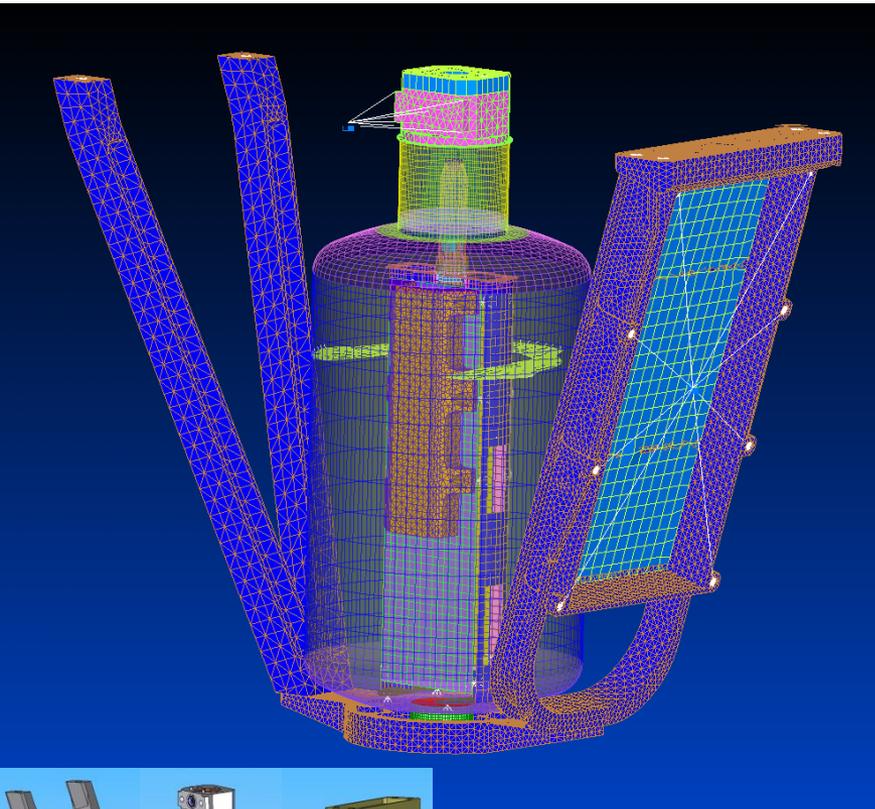
International Collaboration:

- Mexico
- USA
- Germany

SIM



XRS

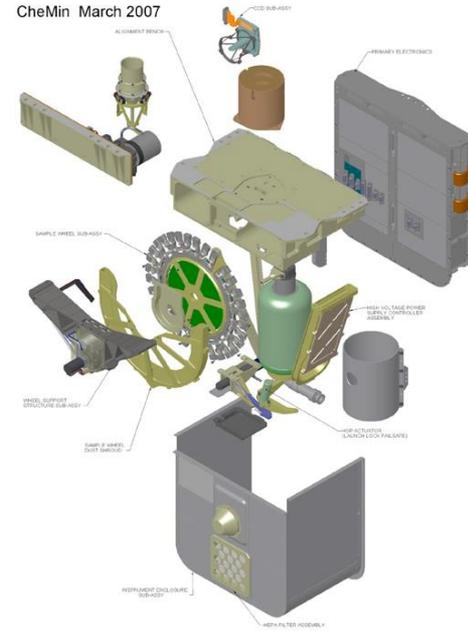


X-Ray Source FEM
200K nodes
110K elements
Static analysis
Modal Analysis
Random Vibration

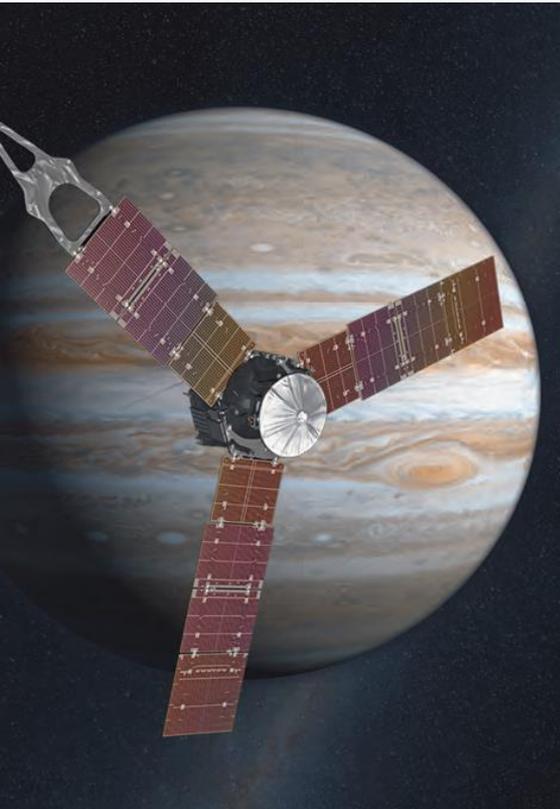
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CheMin March 2007



Juno, LDSD and Other Projects



Juno

30-June-2017



LDSD



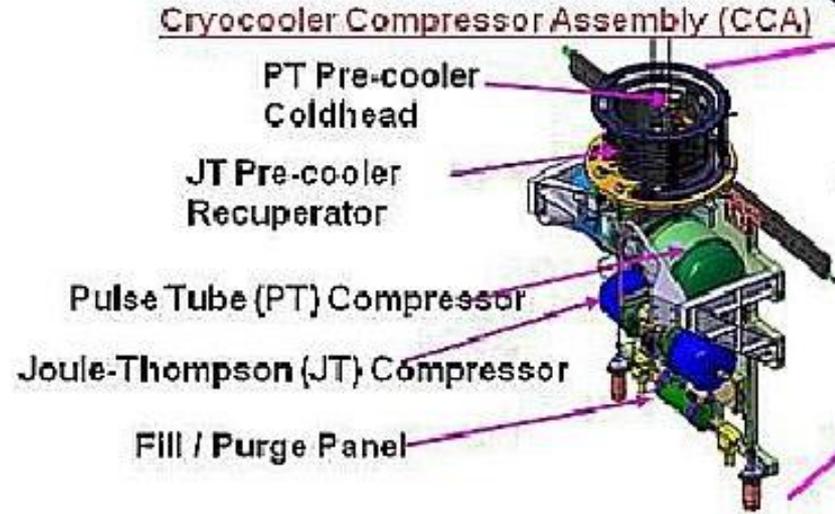
High Speed Structure

AF-17

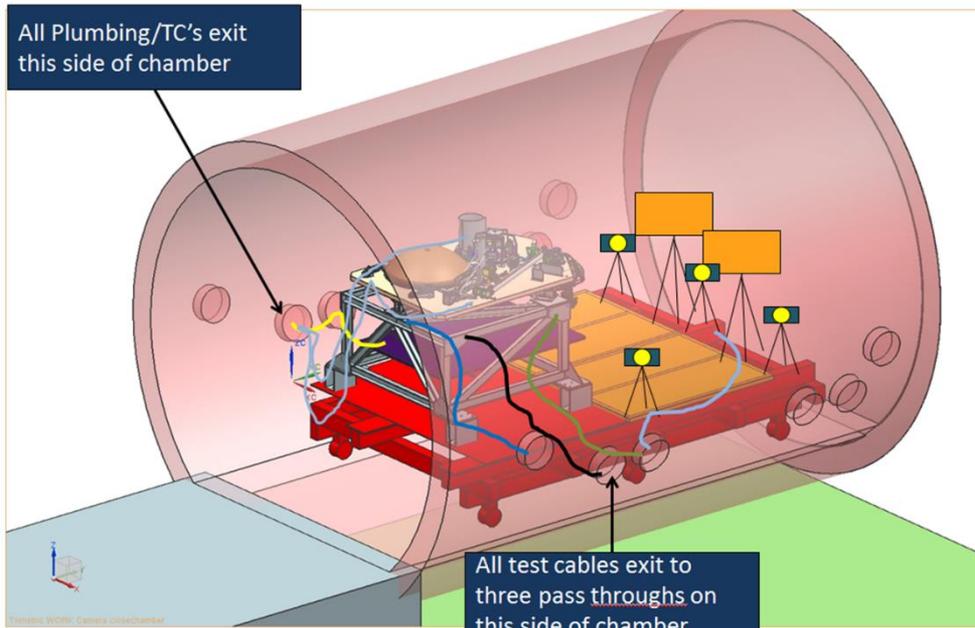
Sunjammer, InSight, MIRI Cryocooler, CAL



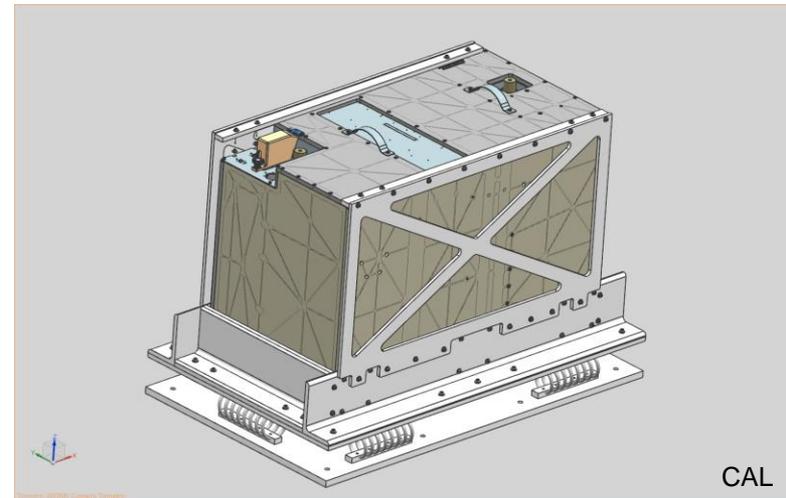
Sunjammer



MIRI Cryocooler



InSight



CAL