

APL's Venus Environment Chamber: Initial Tests, Current and Future Work

Inconel body

Well diameter = 6.4 cm; depth = 22.9 cm

Chamber volume ~700 ml

Max T: 470°C (Limit 500+°C)

Max P: ~10 Mpa (Limit 27+ Mpa)

Custom input Gas mixtures

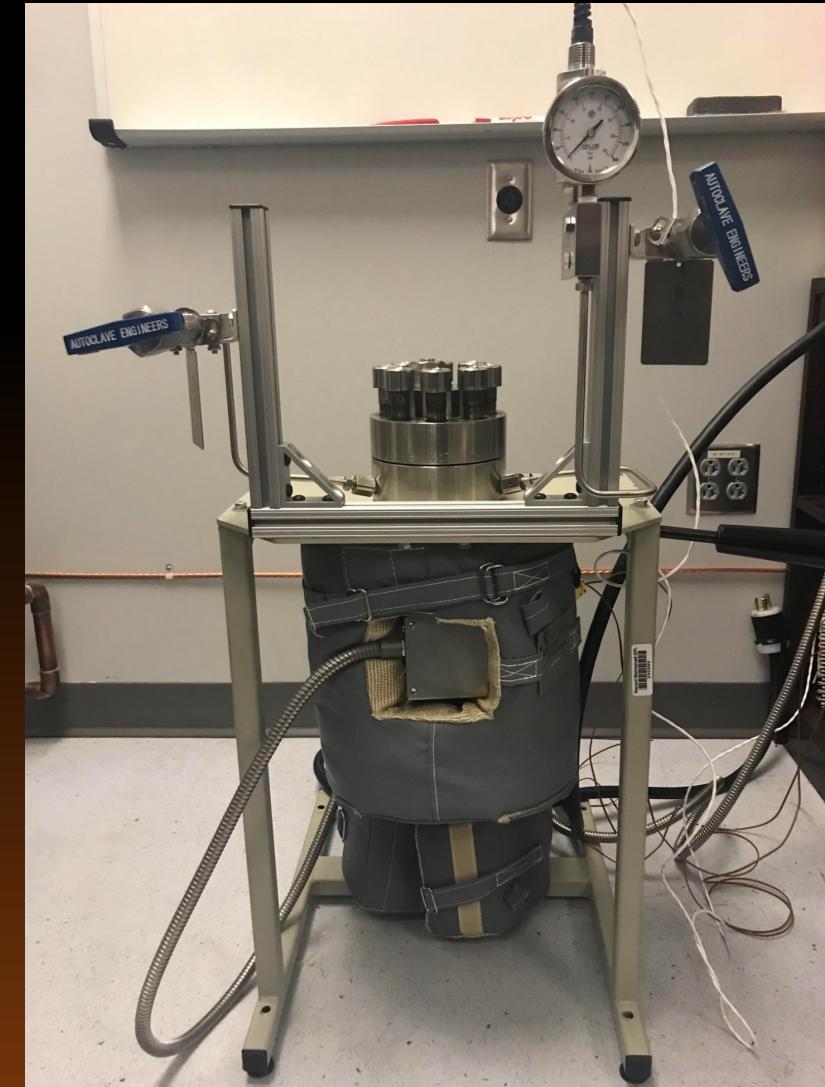
Simple gas-solid reaction chemistry experiments

Via feedthrough:

External monitoring of simple devices

Testing of prototype sensors at Venus conditions

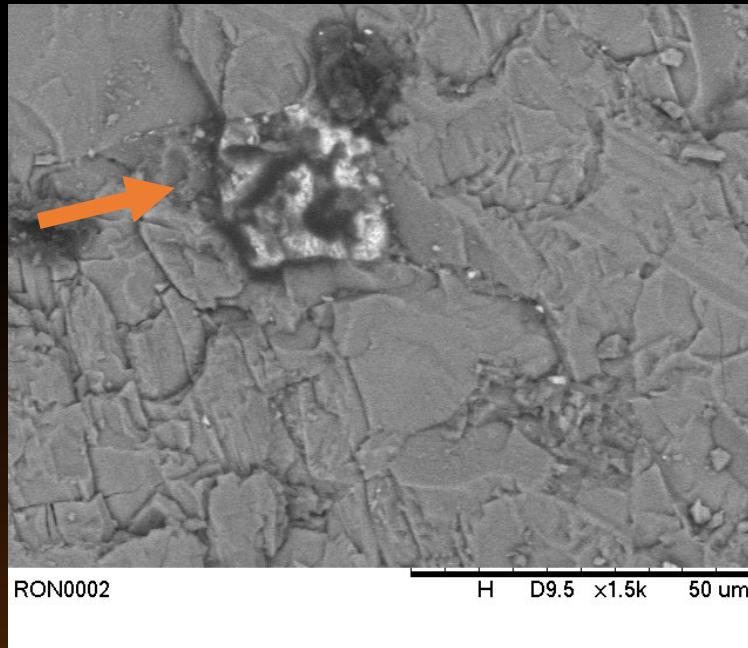
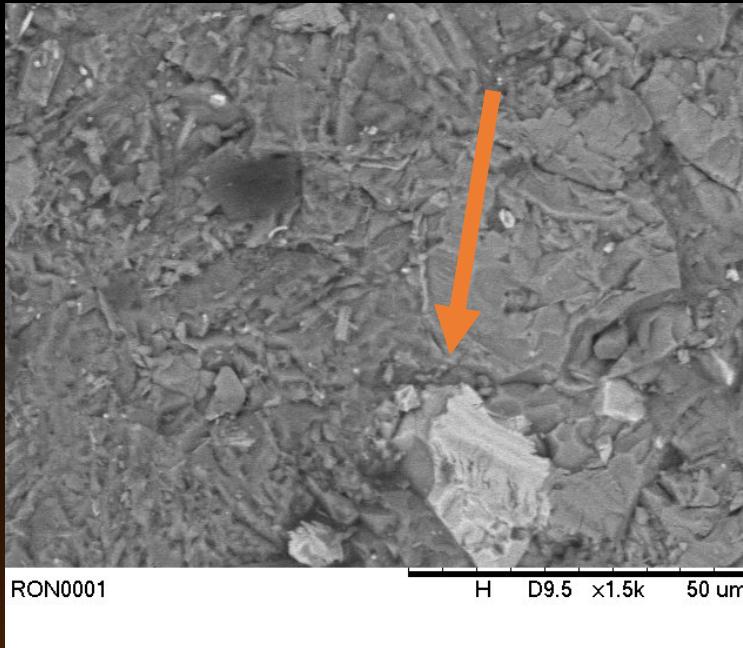
AVEC



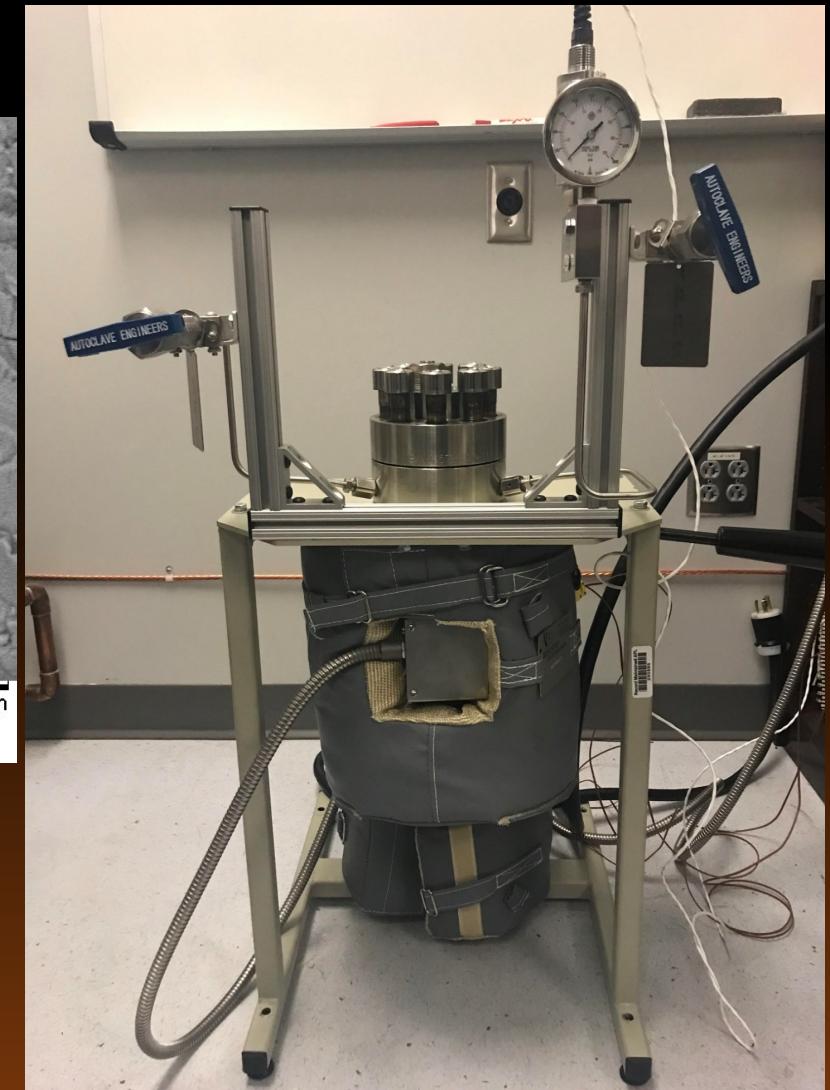
Initial Tests

462 °C 6.82 Mpa

AVEC



Basalt witness sample pre- and post-experiment
(Oxidation of Fe blebs)



Current and Future Work

AVEC

Current Projects:

- VIMRA – Venus In-Situ Mineralogy Reaction Array
- Solid-State, Electrochemical Micro-Sensors for Atmospheric Nitrogen and Carbon Dioxide Measurements at the Surface of Venus

*AVEC is available to the general community by arrangement.
Contact Noam Izenberg.*

