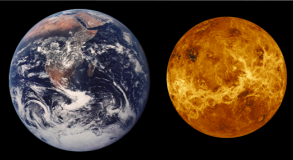


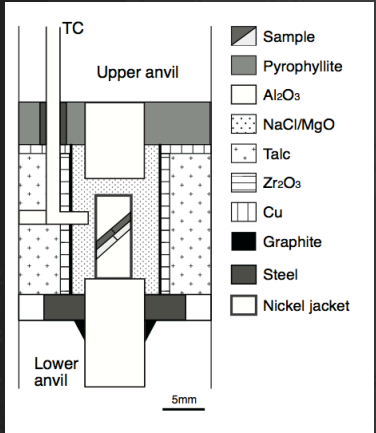
# Rheological structure of earth and venus inferred from strength contrast between plagioclase and olivine

S. Azuma<sup>1</sup>, I. Katayama<sup>1</sup>, T. Nakakuki<sup>1</sup> <sup>1</sup>Hiroshima University



## Why does plate tectonics not work on Venus?? or stopped??

### Deformation experiment (Modified Griggs)

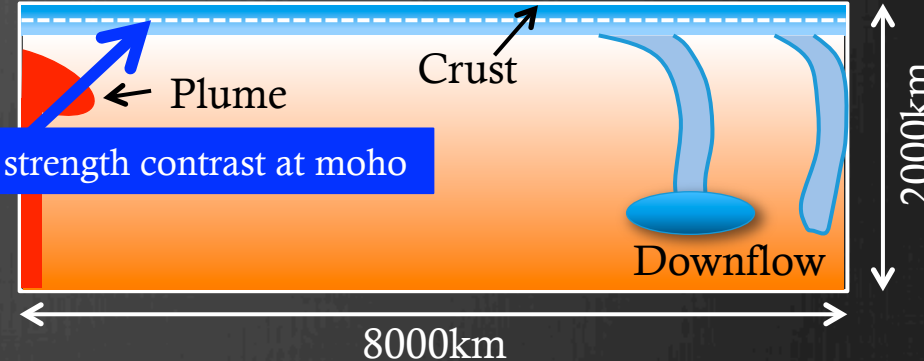


• Experimental condition  
 (Temperature) 600-1000°C  
 (Pressure) 1 GPa  
 (Piston velocity) 500 μm/hr

Extrapolating to strength contrast at moho

Strength contrast between plagioclase and olivine is observed from two-phase deformation experiments.

### Numerical simulation (mantle convection)



To conduct numerical simulation based on the rheological model including crust which is inferred from deformation experiments.

### Results

Difference on rheological structure produces different planetary tectonics.

