

## Questions

- 1) density of partial melt?
- 2) what is the alloy element in the outer core? what percent of the composition is it? what are the constraints?
- 3) Martian CMB? Venus?
- 4) Formation of the CMB? ULVZ = remnant of primordial magma ocean? How related to plate dynamics?
- 5) Dynamics of CMB flow? Period of residence of material in CMB? How does CMB chemical heterogeneity influence flow modeling?
- 6) Anisotropic properties of possible minerals in D" / CMB? LPO (lattice preferred orientation - alignment of individual mineral grains) vs. SPO (shape preferred orientations - alignment of different phases, solid / melt, different elastic properties)?
- 7) How sharp is the CMB? And the other seismic discontinuities in lower mantle (D" discontinuities, ULVZ)?
- 8) What's the temperature gradient across the CMB?
- 9) What are the lower mantle and outer core solidii?
- 10) Resolution and uncertainty of seismic observations at CMB? travel time tomography vs. waveform modeling vs. normal modes?
- 11) How does CMB structure affect length of day, Earth rotational dynamics?
- 12) What are the constraints on CMB topography?
- 13) What is the influence of slabs on the CMB?

- 14) Does CMB relate to / create plumes? How?
- 15) Relation between CMB and heat flow in the mantle?
- 16) Is the outer core really uniform? What about rigidity structures at top of OC?