## Af-013

## Room: IC

## Phase relation of basalt-H2O system and water transportation into the lower mantle

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Subducting slabs transport water into the deep mantle. The phase relation in MORB-2% water system at high pressure is different from that of dry MORB system. The assemblage, KAS+St+Ca-pv(+L), is stable at 25 GPa and 1400C, whereas KAS+St+Ca-pv+HMAS is stable at 1000-1200C and 25 GPa. The major constituent minerals in dry MORB, majorite and Mg-perovskite, are not stable in wet MORB. We observed a new hydrous phase, HMAS, in wet basalt. The present phase relation in wet basalt implies that there is a new mechanism of water transportation into the lower mantle, i.e., fluid formed by dehydration of superhydrous phase B (= phase C) and phase G (= phase D) reacts with the overlying basaltic layer of the slabs to form a new hydrous phase, HMAS, and is transported further into the lower mantle.