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Department of Atmospheric Sciences Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa
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The changing water cycle in earth's climate from atoms to planetary scales

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Date: **Wednesday, November 25, 2020**
Time: **3:30pm HST**
Zoom Meeting: **<https://hawaii.zoom.us/j/97454168193>**
Meeting ID: 974 5416 8193
Passcode: 207183

Abstract:

Understanding atmospheric hydrology and clouds is of fundamental concern because of the interplay between multiple components: radiative properties of the earth, ocean circulation, convection, large-scale atmospheric transport, turbulence and the continental biosphere. Stable isotope ratios of hydrogen and oxygen in all forms of water provide insight into processes that govern the movement of water and cloud microphysics. This capacity arises due to differences in the thermodynamic and diffusional properties of water molecules with different isotopic substitutions. Technological advances in laser spectroscopy and satellite based hyperspectral sensing have enable measurements that have revolutionized the capacity to deduce the microphysical processes controlling isotopic ratios. I discuss the microphysics of liquid vs ice clouds and the use of this information for past variations in tropical circulation.