1046-86-1424 **Ron Kwok*** (ron.kwok@jpl.nasa.gov), 300-235, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109. *Sea ice thickness and kinematics.*

Large-scale circulation of sea ice determines the advective part of the ice balance and provides a velocity boundary condition on the ocean surface. Small-scale ice motion controls the abundance of thin ice and the many surface processes dependent on thin ice, such as turbulent heat flux to the atmosphere. Smaller scale processes in the ice cover involve the detailed motion of individual floes, aggregate of floes and the formation of leads. Lead formation during periods of divergent motion produce open water and thin ice areas that dominates the heat flux into the atmosphere and salt flux into the ocean. Pressure ridges are formed during periods of ice convergence. These processes control the extremes in the thickness distribution of the sea ice cover. Here, we describe our current observational capability in sampling these processes in space and time. (Received September 15, 2008)