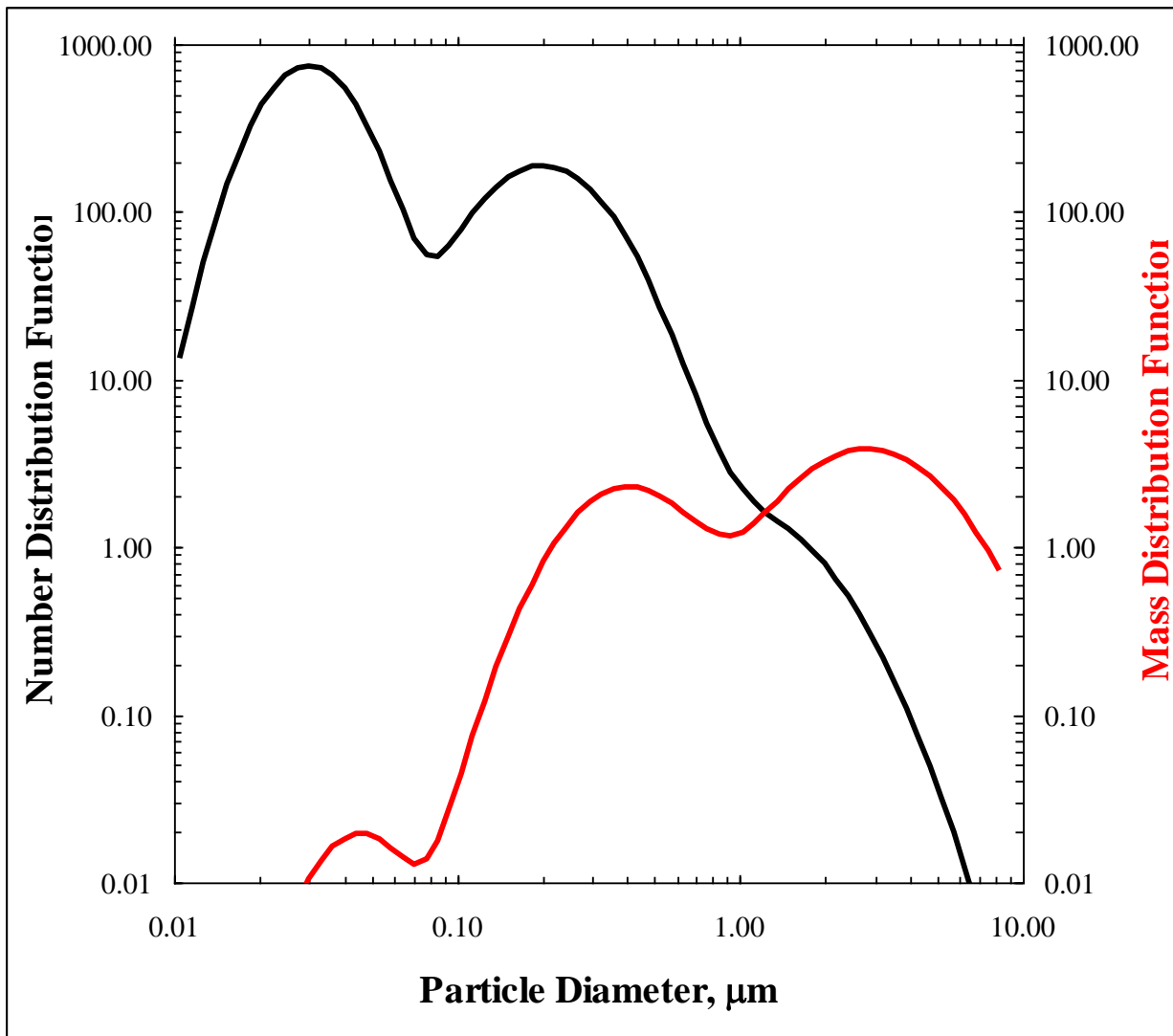


**Jeff Snider**  
**University of Wyoming**

**Wing-mounted Aerosol instruments Proposed for ICE-T**

Name	Full Name	Aerosol Sample Rate	Size Range
PCASP SPP-200	Passive Cavity Aerosol Spectrometer Probe	$1 \text{ cm}^{-3} \text{ s}^{-1}$	$0.12 \text{ }\mu\text{m} <D < 3 \text{ }\mu\text{m}$
FSSP-300 SPP-300	Forward Scattering Spectrometer Probe	$17 \text{ cm}^{-3} \text{ s}^{-1}$	$0.4 \text{ }\mu\text{m} <D < 20 \text{ }\mu\text{m}$
CPSD	Cloud and Aerosol Spectrometer - Depolarization	$20 \text{ cm}^{-3} \text{ s}^{-1}$	$1.0 \text{ }\mu\text{m} <D < 50 \text{ }\mu\text{m}$
CDP	Cloud Droplet Probe	$24 \text{ cm}^{-3} \text{ s}^{-1}$	$2 \text{ }\mu\text{m} <D < 50 \text{ }\mu\text{m}$
FSSP SPP-100	Forward Scattering Spectrometer Probe	$20 \text{ cm}^{-3} \text{ s}^{-1}$	$1.0 \text{ }\mu\text{m} <D < 50 \text{ }\mu\text{m}$

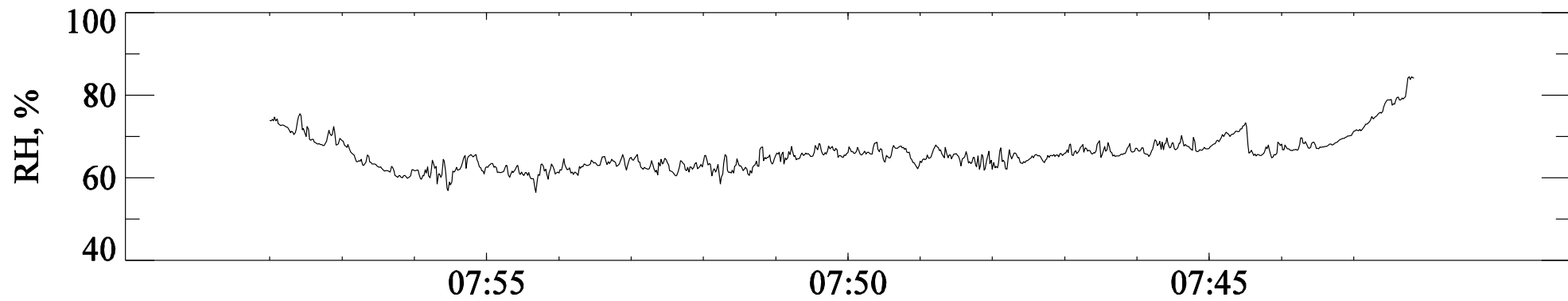
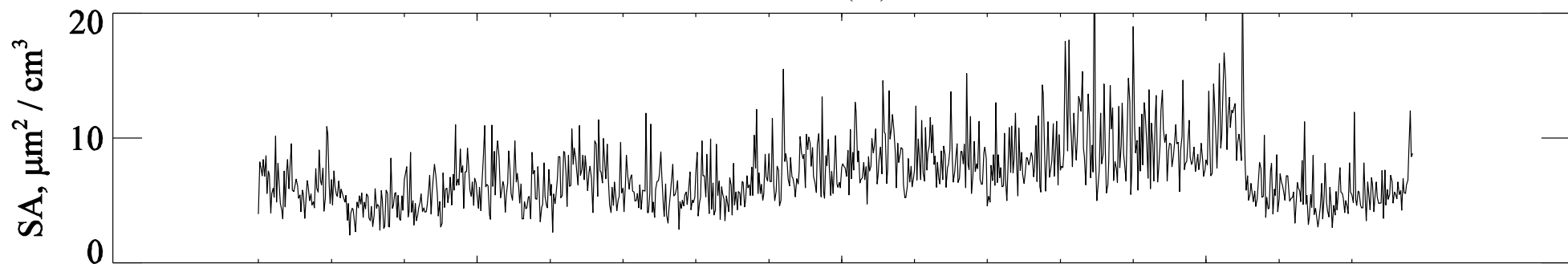
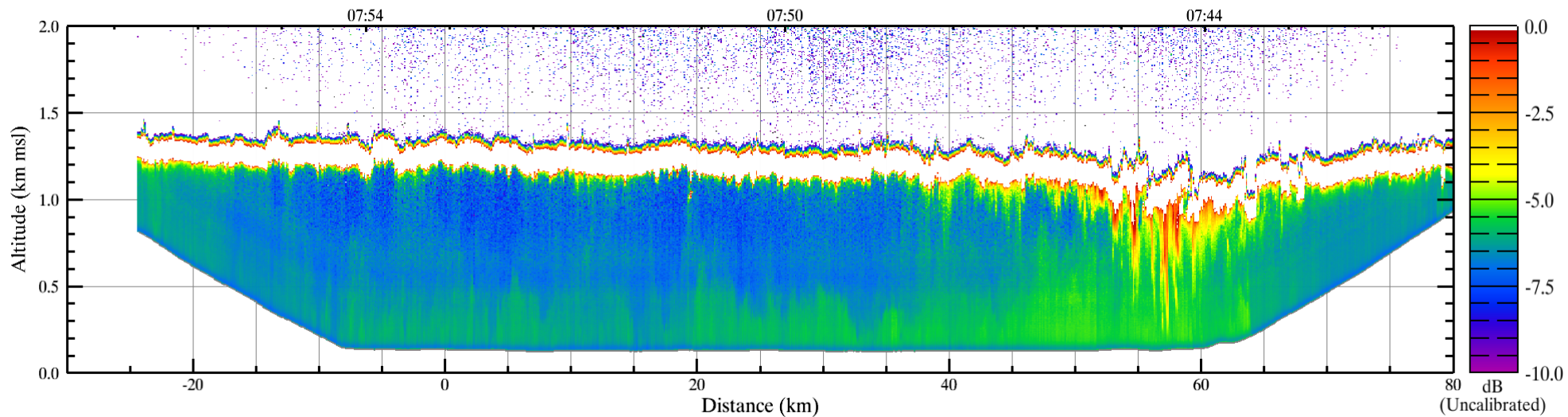
**Coarse-mode ( $D > 0.5 \mu\text{m}$ ) particles are important for ice nucleation, BUT, sampling statistics demand that we average several minutes ( $\sim 10 \text{ km}$ ) to get a meaningful average**



# Advantage of Wing-mounted Aerosol Probes – Inlet Issue Less Challenging



# Upward-viewing Lidar Measurements in a Humid Marine Boundary Layer



# Advantage of FSSP-300 – Sampling statistics and good overlap with PCASP

