

Microphysical Observations in Support of CAMEX-4 and KAMP

by

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NCAR

OUTLINE

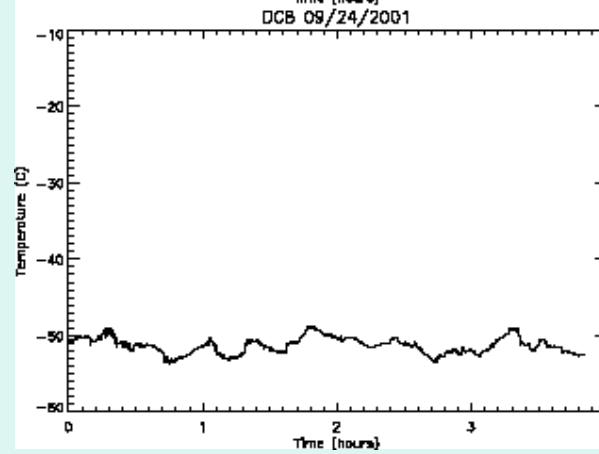
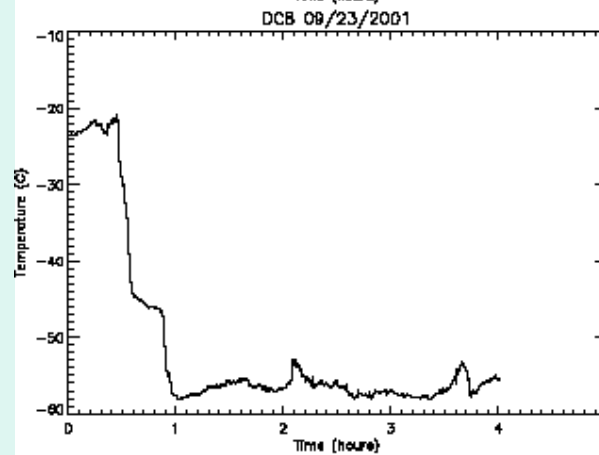
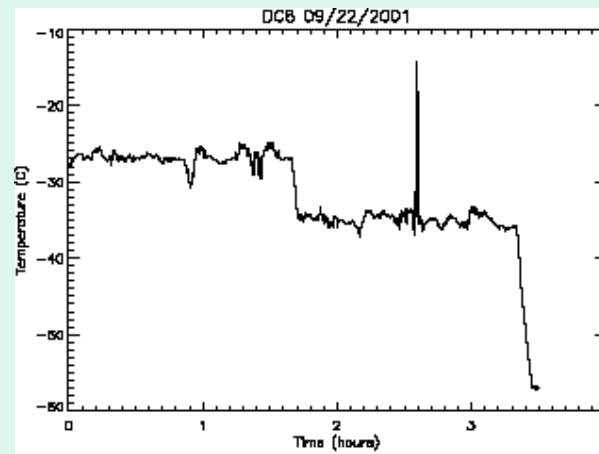
- Overall Research Objectives
- Past Year's Accomplishments and Ongoing Research
- Future Plans
- Status of Data Submission

RESEARCH OBJECTIVES

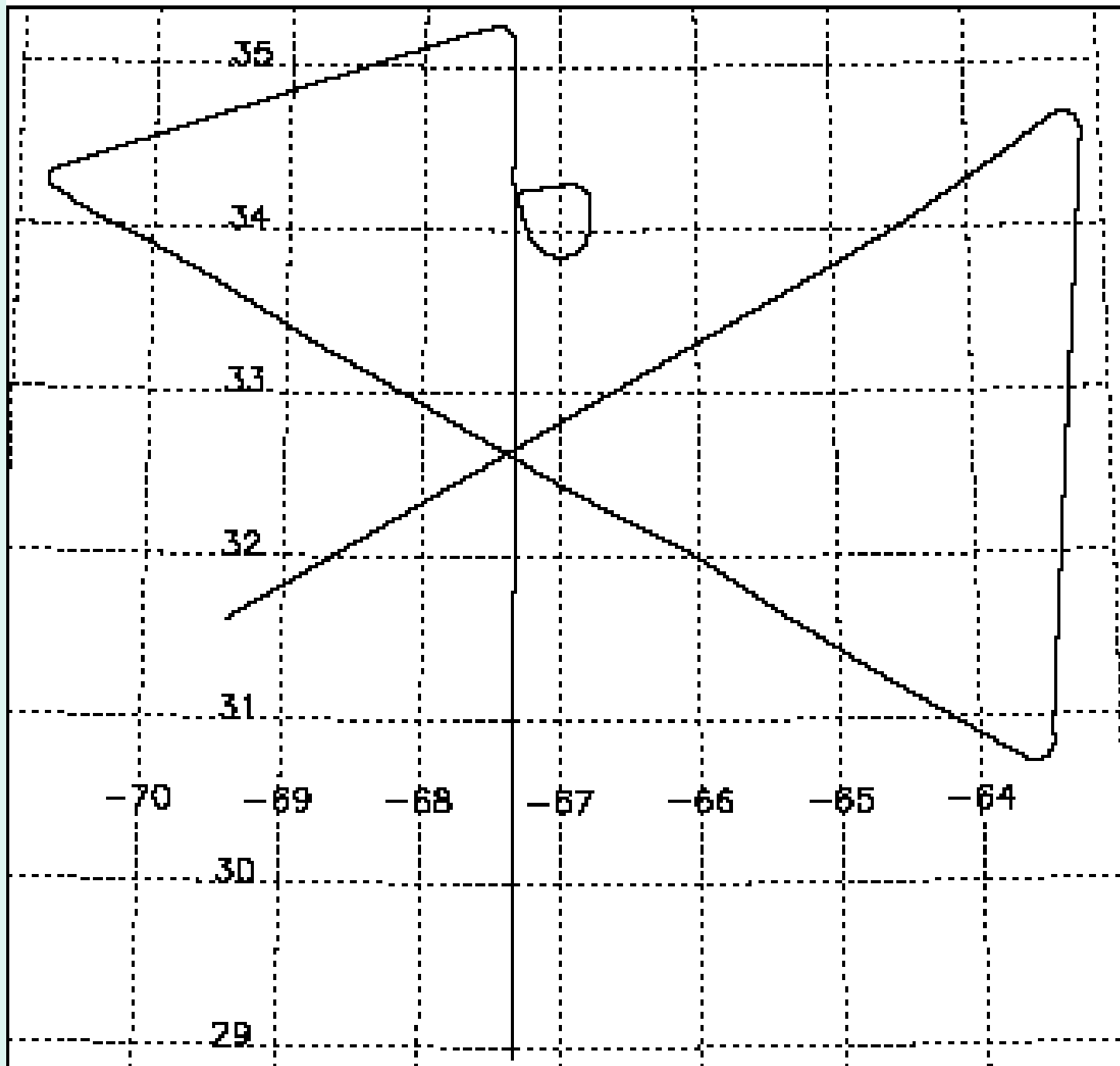
- **Make measurements of particle size distributions, from several microns to cm size, measure directly the condensate (liquid and ice) mass, and determine the shapes and properties of the hydrometeors from the NASA DC-8 aircraft during CAMEX-4 and KAMP.**
- **Develop a suite of parameterizations that can be used directly in modeling studies to produce more physically estimates of condensate and precipitation. Algorithms for retrieving cloud microphysical properties from radar will also be developed.**

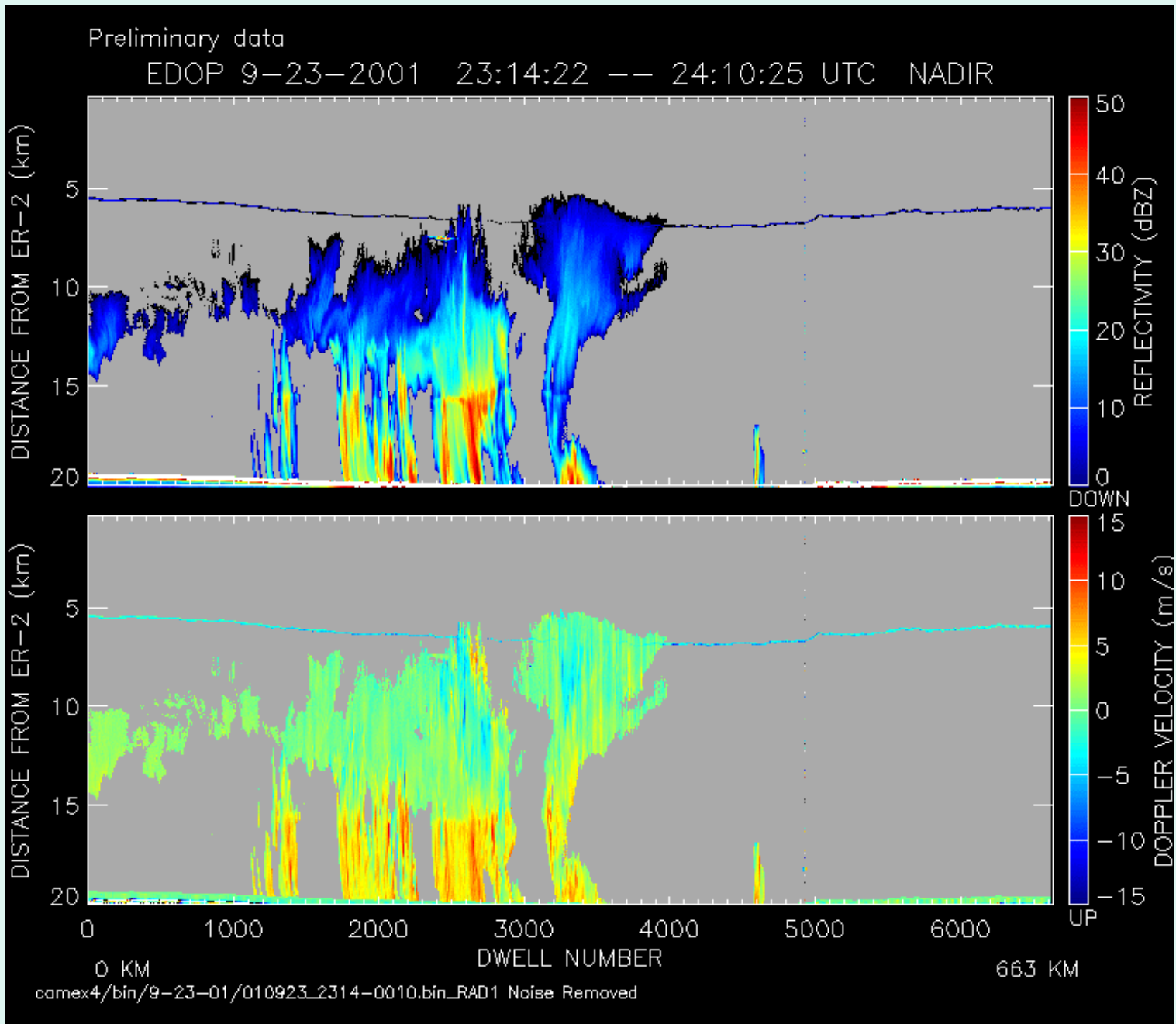
Accomplishments and Ongoing Research

- Focus on size distribution and habit observations and derived moments for:
 - Hurricane Humberto
 - KAMP Flight 9 September



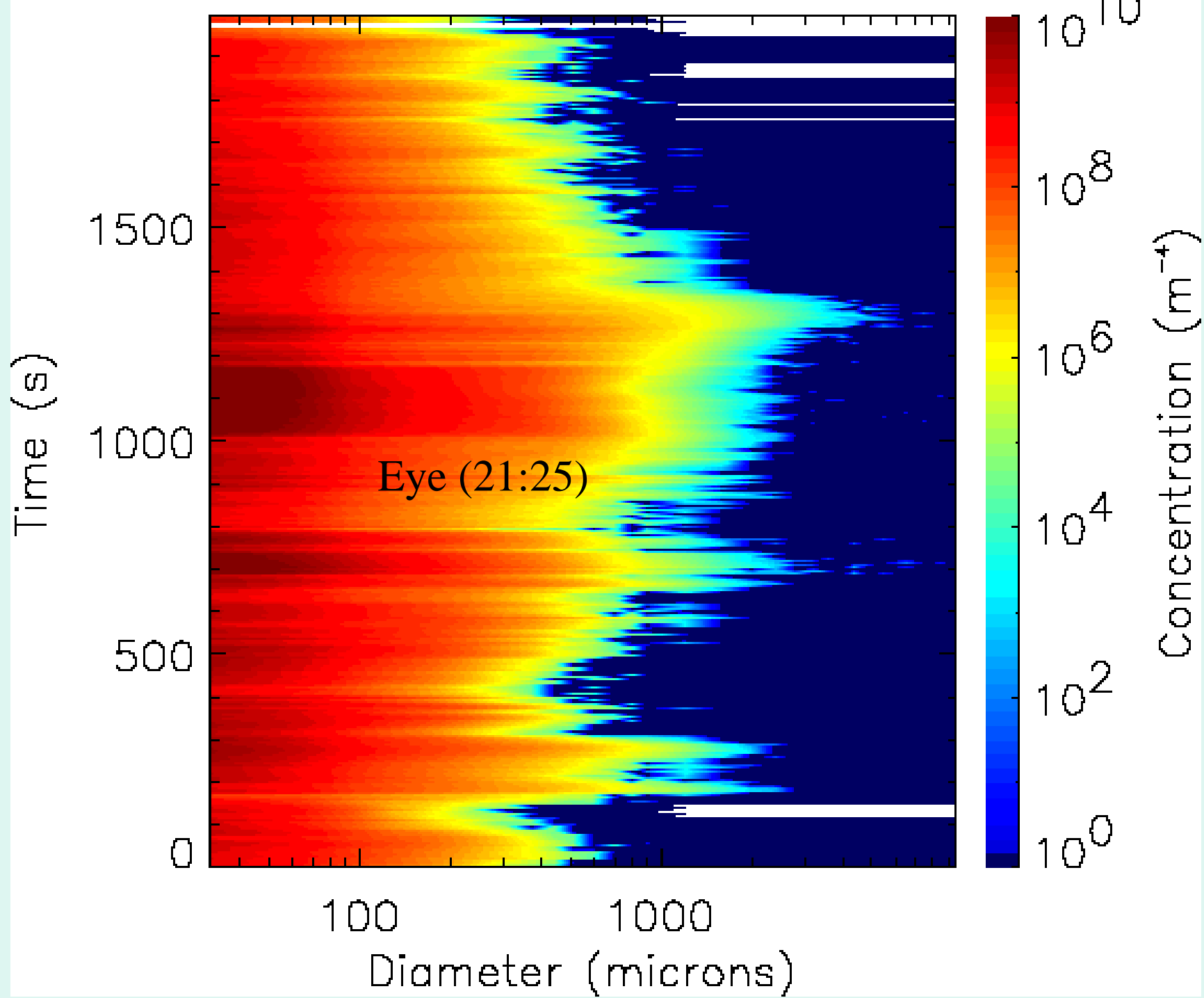
DC8 09/23/2001

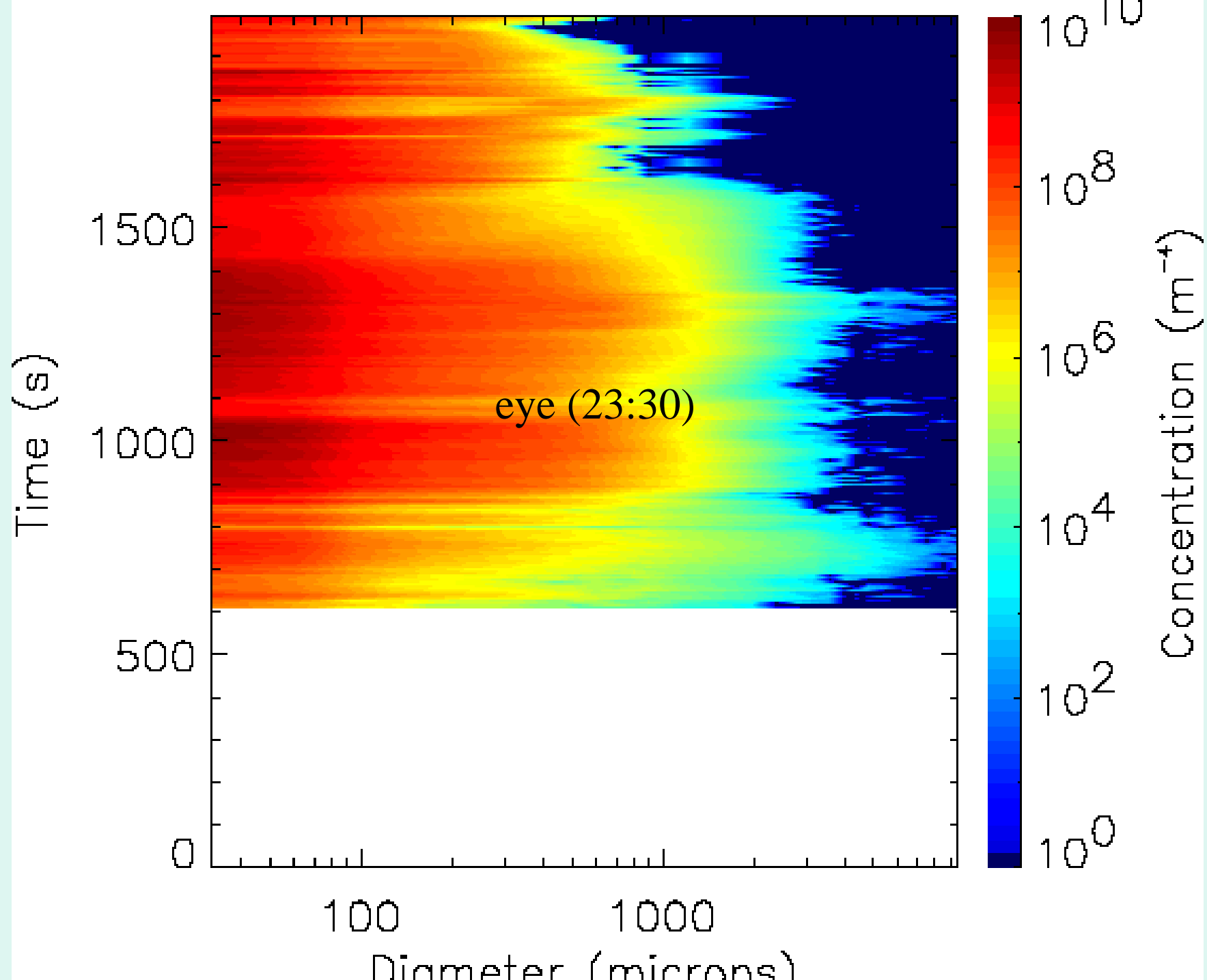




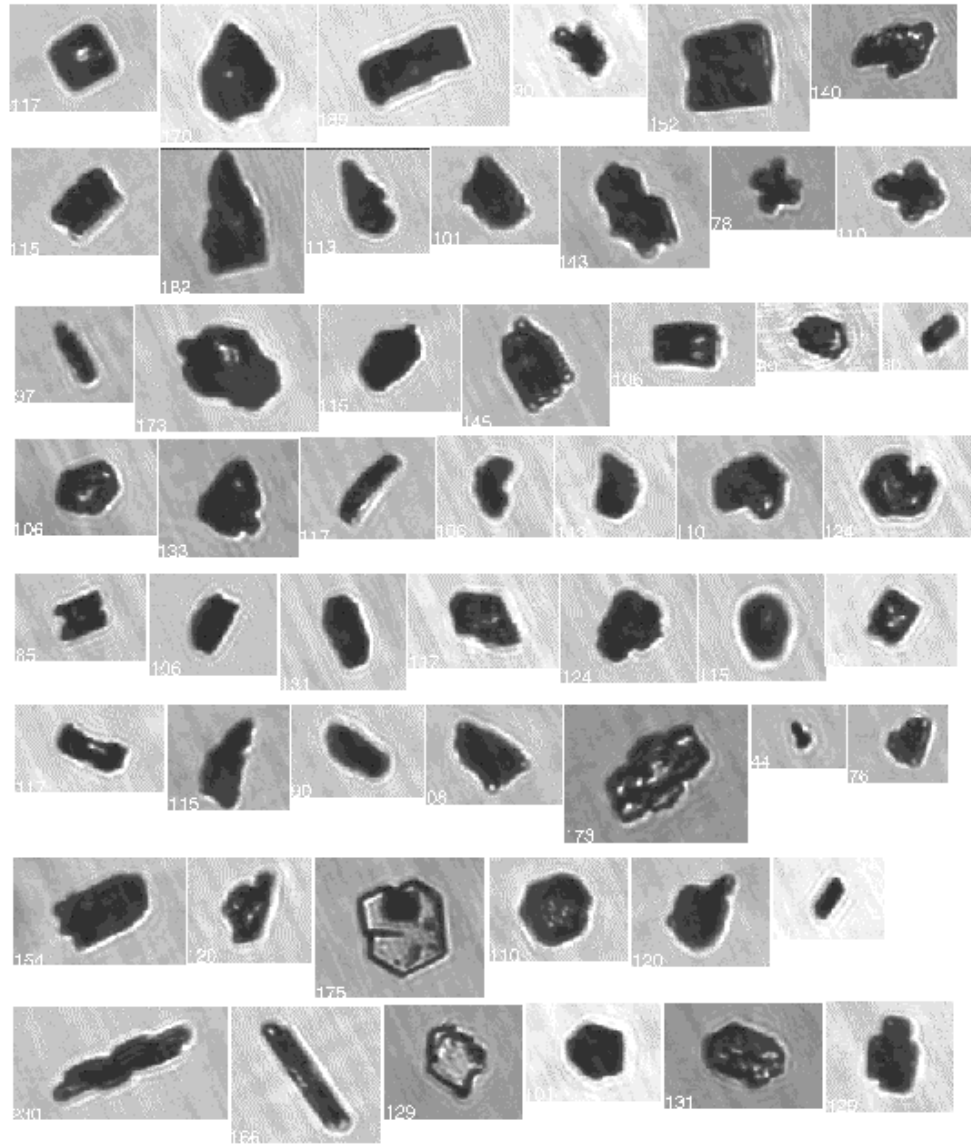
(EDOP, Gerry Heymsfield)



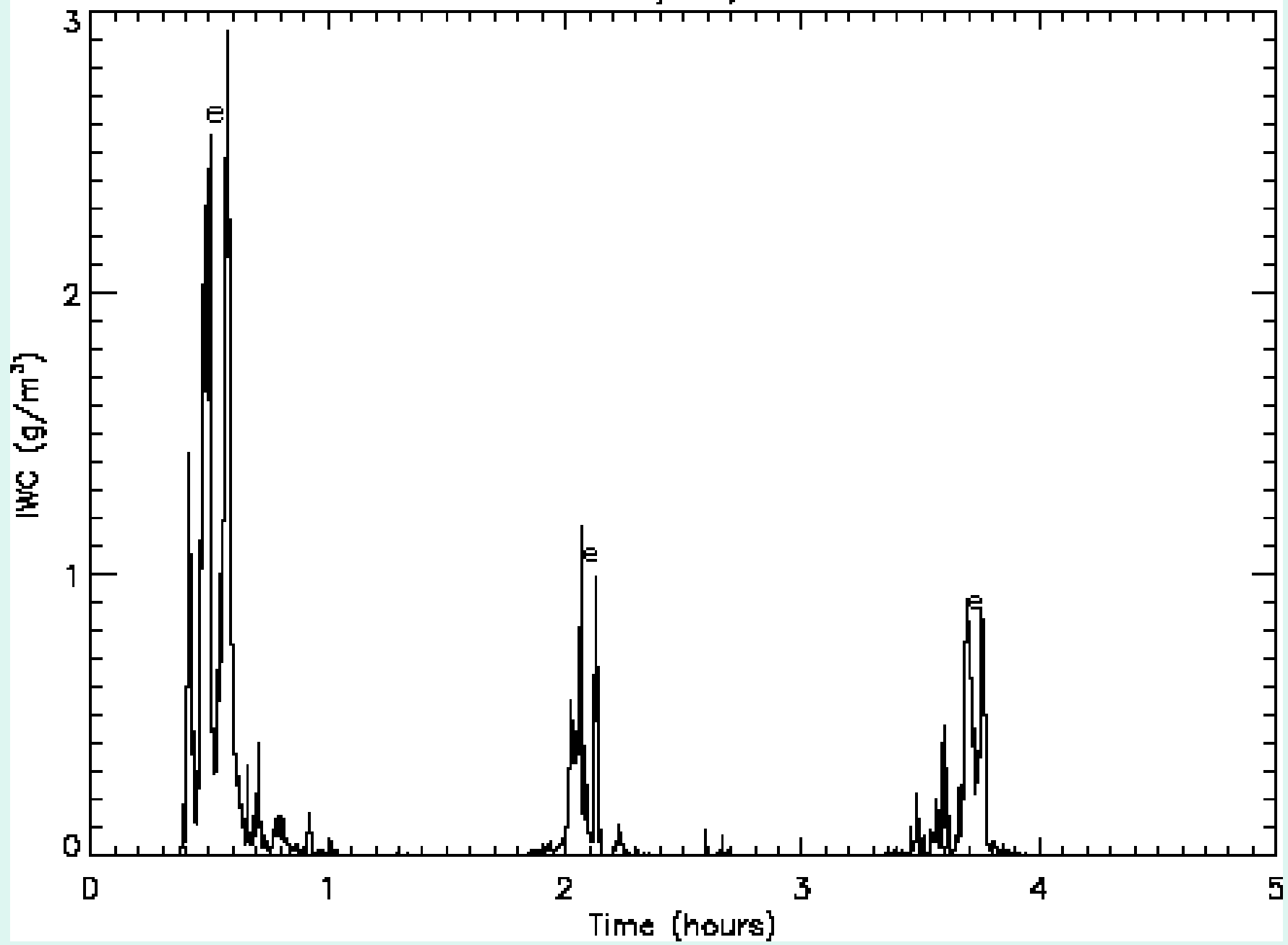




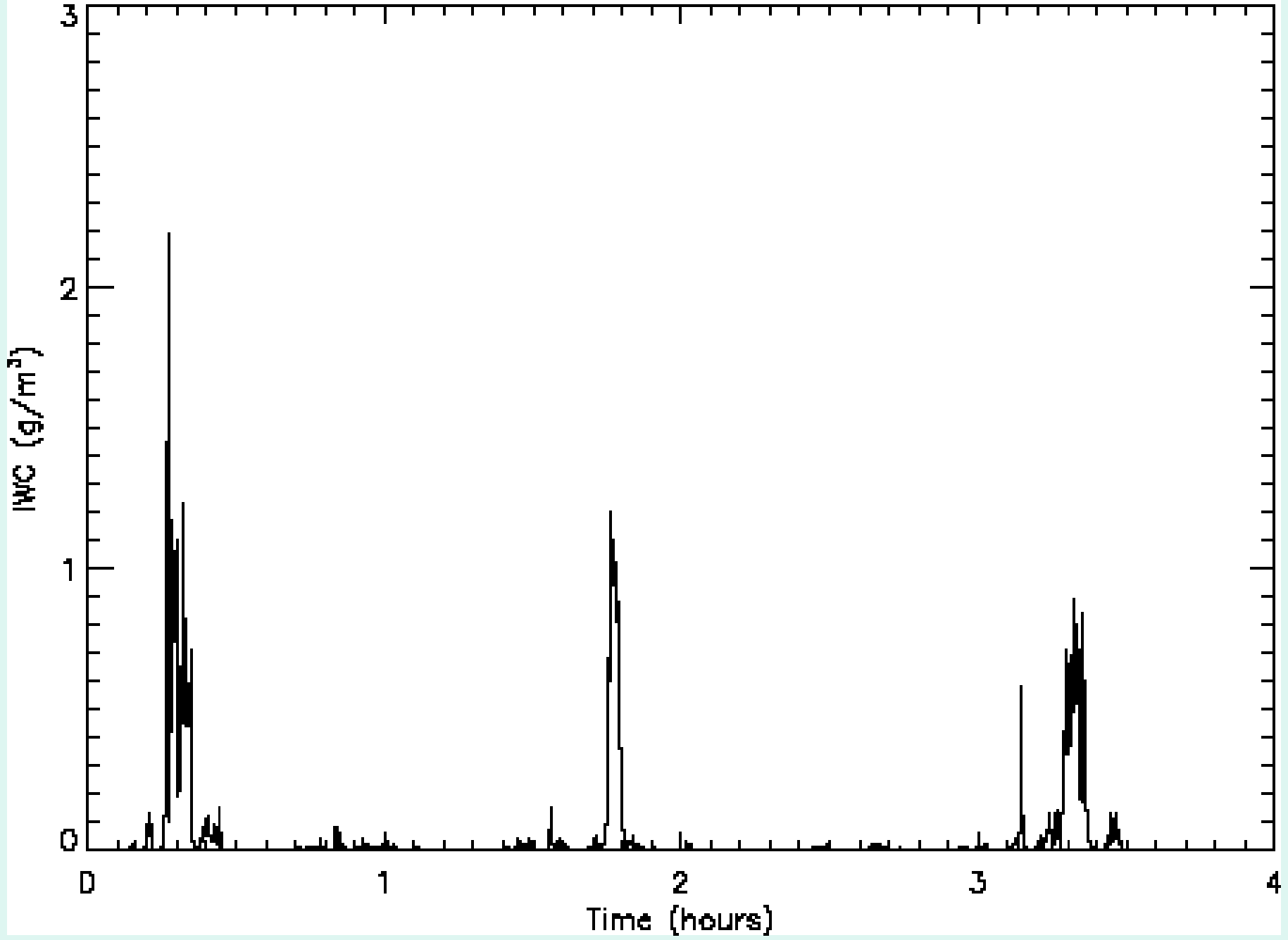
Humberto, 23 Sept 2001



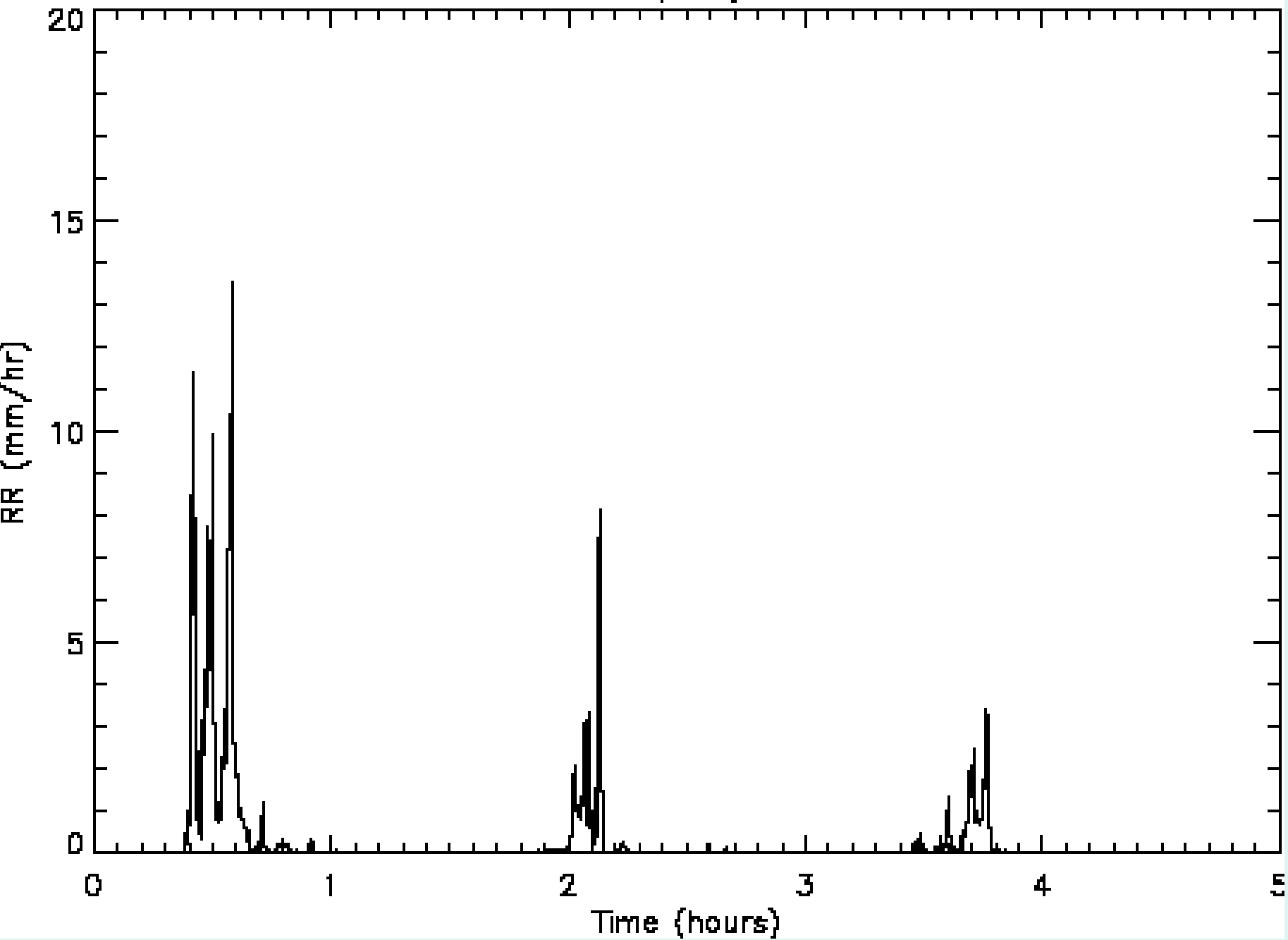
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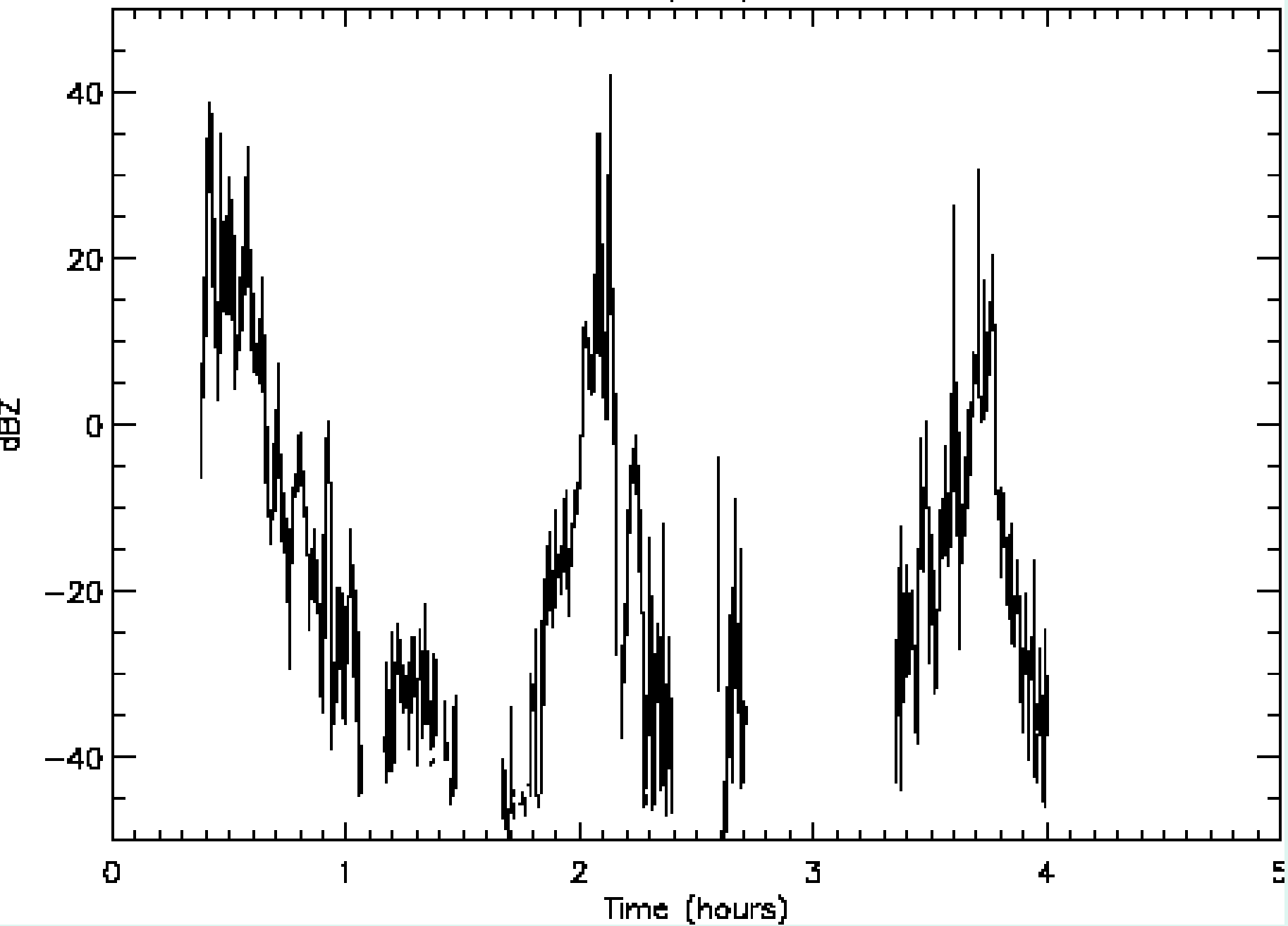
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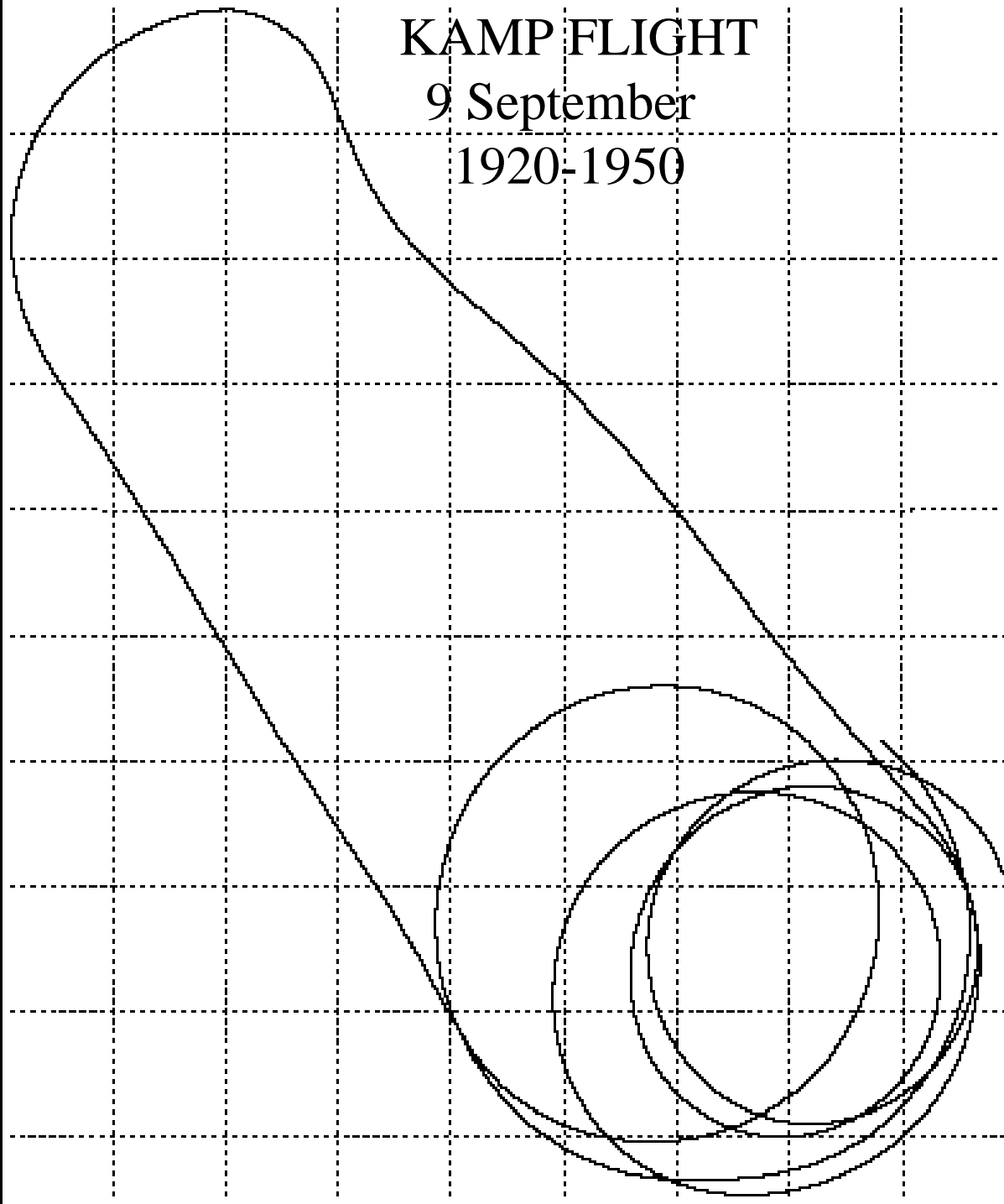
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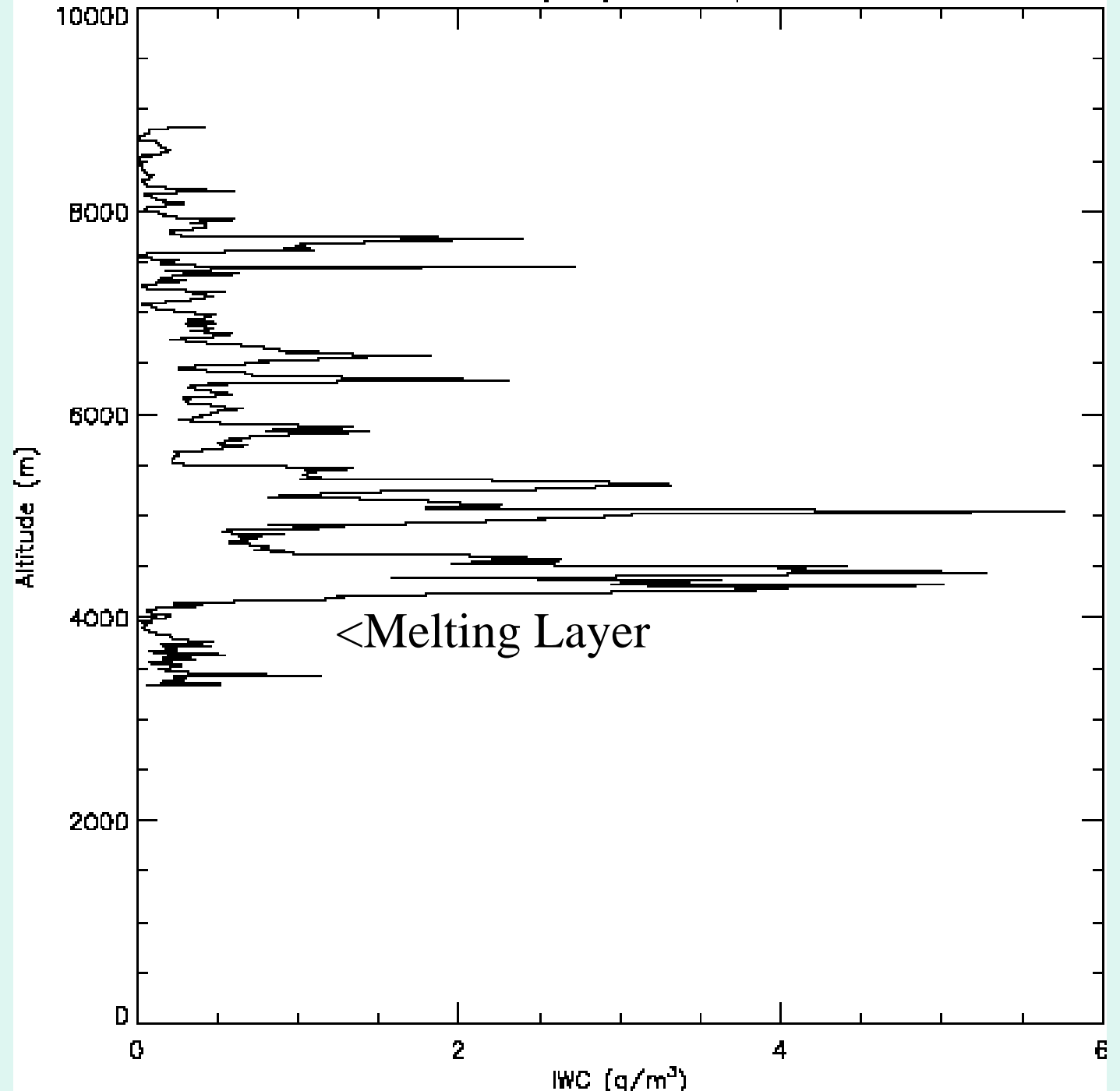


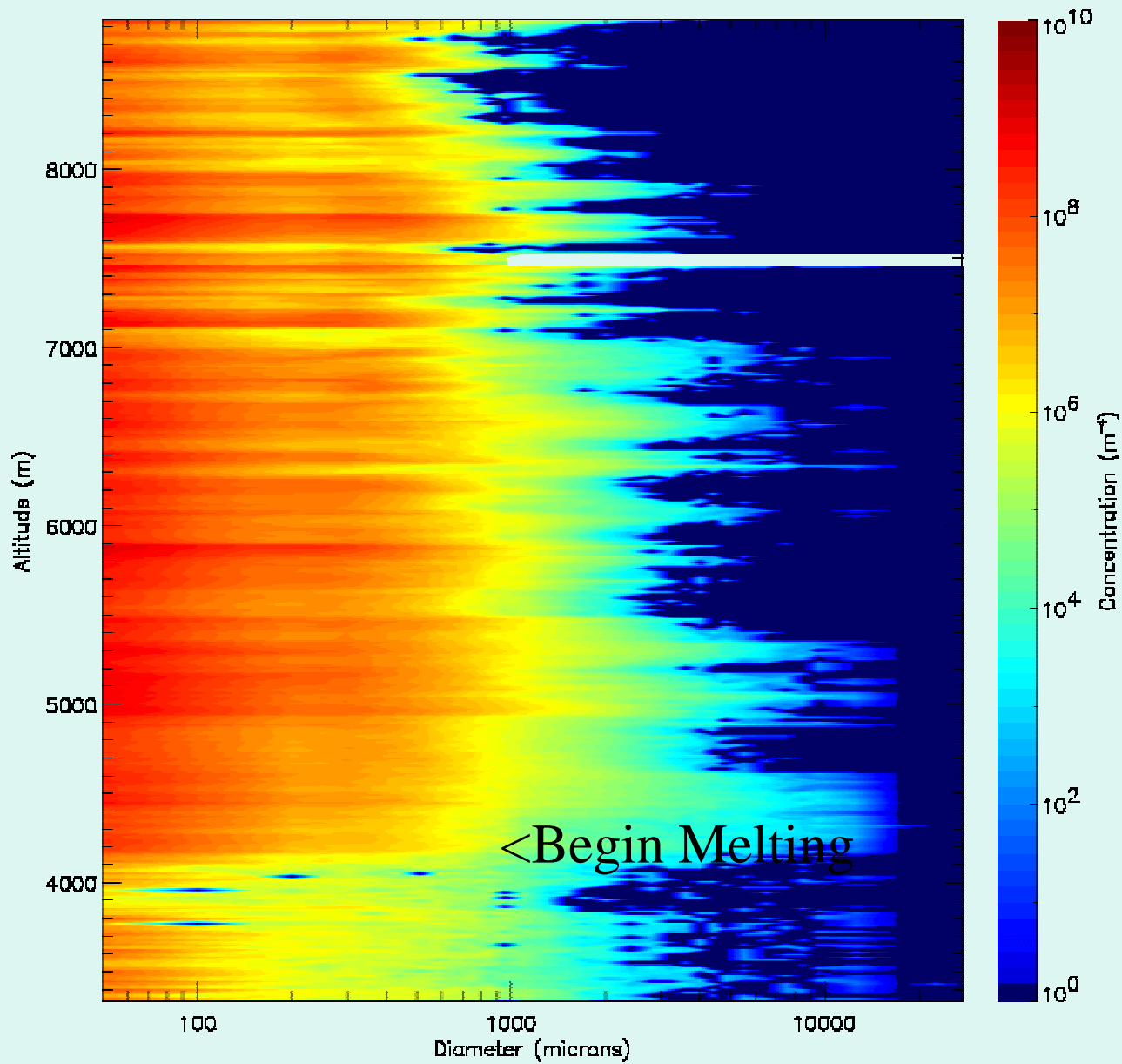
KAMP FLIGHT

9 September

1920-1950







Future Plans-Humberto

- Present papers on Humberto at Tropical Meteorology Conference (April), Cloud Physics Conference (June).
- Factor in Nevzorov TWC data into analysis
- Parameterize the size distributions
- Relate microphysics to vertical velocity, relative humidity
- Relate observations to EDOP Doppler radar data
- Examine Data from Erin, Gabrielle, Chantal

FUTURE PLANS-KAMP

- Conduct detailed analysis of several KAMP flights, including spiral descents and horizontal legs
- Factor in Nevzorov TWC
- Develop parameterizations of size distributions in terms of total water content and radar reflectivity

Archival Activities

- Humberto size distribution, habit data now submitted
- Data from several KAMP flights now submitted
- Continued flow of data straight-forward