

AMMA Instrument Form

SU14

Code	PI (Name, E-Mail)	Lab. and TT.	AMMA Period	Funding Sour
AS.NPOL_D	Paul Kuchera pkucera@aero.und.edu	NASA/GSFC/Wallops 8,9	2006	NASA

Description of the instrument. S-Band Doppler and polarized radar

Scientific and technical team. Paul Kucera, John Gerlach, Everett Joseph, Amadou Gaye.

Scientific Objectives.

Radar observations to study the structure and evolution, the thermodynamic characteristics and environment of mesoscale convective systems propagating from the continent to the tropical eastern Atlantic. Coordination with NASA A-Train satellites overpasses will be a high priority.

Observation Strategy.

The NPOL radar will be operated continuously collecting full volume scans about every 10 minutes.

Links with other instruments.

Rain gauge and disdrometer networks to be deployed in Western Senegal to provide data needed to convert radar reflectivity into rainfall rates. Coordinate scans during NASA satellite overpasses. Radar data to be used to identify targets for WB57 flights

WPs relying on the instrument: 1.1, 1.2, 2.1, 2.3

References: technical details of the NPOL radar can be obtained from john.gerlach@nasa.gov.

OPERATION and COLLABORATIONS

Deployment (site, dates, logistics).

Approx. 40 km southeast of Dakar, Senegal
Radar operations will begin 15 Aug 06 and end 30 Sept 06.

African Partners. Amadou GAYE

Other Partners. Howard University, Univ. of VA, North Dakota University

INFORMATION for the DATA BASE

Type of platform: ground-based

Type of instrument: Dual polarized S-band research radar

Sensor producer:

Transmitter – Enterprise Electronics Corporation –S-band magnetron
Receiver and Operating Software – SIGMET RVP7 and IRIS

Serial number of sensor: n/a

Information about calibration: Electronic calibration of the receiver using a calibrated signal generator will be done at least weekly. Solar calibration checks, daily. Transmitter output power monitored continuously.

Site and position of sensor(s): SE of Dakar, Senegal

- 14deg 39.25' N
- 17deg 06' W
-

Measured parameters:

- Radar reflectivity, velocity, differential reflectivity, differential phase, correlation coefficient
- Linear depolarization ratio for special cases

Data provided to the AMMA data base:

-to be determined

Unit of data provided :

- raw radar files or radar products or quality controlled rain maps as per agreement
-