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Doppler radar observations of precipitation systems during AMMA SOP 2-a2

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The African Monsoon Multidisciplinary Analysis (AMMA) is an international project to improve our knowledge and understanding of the West African Monsoon (WAM) and its variability. During a special observation period (SOP 2, summer 2006) a large panel of tools was deployed on west Africa in order to document specifically the wet season. Meteorological Doppler radars were notably used : (i) the C band Doppler radar from the MIT (Massachusetts, USA) , in Niamey (Niger) ; (ii) the X-Port X band polarimetric Doppler radar (LTHE, Grenoble, France), in Djougou (Benin) ; (iii) the RONSARD C band polarimetric Doppler radar (CETP, Paris, France), in Kopargo (Benin). With this instrumentation, three dimensional kinematics, water budgets and/or microphysical aspects of the precipitation systems can be provided. This study focuses on preliminary results from an analysis of the datasets available at this time. We study especially the SOP 2-a2 (17 July to 25 August 2006) that is assumed to be the period when the Monsoon was well established. Characteristics of the three dimensional structure of wind and precipitation for some observed systems are discussed along with the environmental conditions.