EECLAT

Expecting Earth-CARE, Learning from A-Train

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The EECLAT project aims to stimulate the French scientific community working with A-Train, ADM-Aeolus and Earth-CARE, with a special interest in active sensors.

The EECLAT community develops and provides datasets and tools built around these concept. Scientific interests are mostly build around the study of clouds (including stratospheric ones) and aerosols. As members of the A-Train, CALIPSO and CloudSat operate in concert with mature passive sensors such as CERES, PARASOL, MODIS that provide more information e.g. the radiative balance of the Earth, the amount and directionality of reflected light, and infrared emitted radiances. The A-train can document simultaneously the macrophysical, radiative, and to some extent microphysical properties of atmospheric particles (aerosols, clouds, polar stratospheric clouds). In synergy, A-train instruments can document atmospheric processes at regional and global scales. Strong of this success, the forthcoming ADM and Earth-Care missions take the next steps: (1) To acquire 20+ years of active remote sensing observations from space by merging the A-train and ADM and Earth-Care data. This will let us document the decadal evolution of clouds, aerosols, and PSC. (2) To improve lidar and radar observation capabilities based on the advanced design of ATLID (High Spectral Resolution Lidar) and CPR (Doppler radar) that will provide new information on atmospheric particles.

PI EECLAT : J. Delanoë (LATMOS) et V. Noël (LA)

CONTACT LAMP :

- N. Montoux : T3.2 : Evaluation of the aerosols properties retrieved by CALIOP, ADM-AEOLUS and EarthCare using “in situ” and ground-based lidar measurements at mid-latitudes.
- O. Jourdan : Microphysics of tropospheric clouds in remote environments (polar regions and Southern ocean)
- F. Szczap : T4.3: Effects of liquid and mixed phase clouds inhomogeneities on LIDAR/RADAR observations : application to A-train and EarthCARE space missions
- J.-L. Baray : T5.2.1 Multi-parameter data sets from ground-based atmospheric observatories
• Financement : CNES, TOSCA, INSU
• Lien: http://eeclat.ipsl.jussieu.fr/