

The ARCADE project

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The Atmospheric Research for Climate and Astroparticle DEtection (ARCADE) project started in 2012 and involves research groups from Italy (Naples, Turin and L'Aquila) and Colorado.

The target of ARCADE is the comparison of the techniques mostly used in cosmic-rays and gamma-rays experiments to measure the atmospheric aerosol attenuation profiles of the UV light, for a better understanding of the systematics, limits of applicability and possible enhancements of each method. The experimental setup includes a steerable Raman Lidar, completely designed and realized within this project, and a telescope for the detection of UV light (AMT, Atmospheric Monitoring Telescope). The instruments have been installed in Lamar, Colorado and took data for one year. Simulations of the Lidar optics and of the AMT light profiles have been performed. Specific calibration runs of the AMT have been performed using a closeby laser facility. The analysis of the collected data is in progress and first results are shown.

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