

# SCAVENGING OF AEROSOL PARTICLES BY RAIN IN LEON (SPAIN)

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In order to determine the scavenging of aerosol particles by raindrops, a sampling campaign was carried out from July to the end of October 2015 in the city of León (Spain). Precipitation and aerosols were monitored by means of a laser disdrometer Thies LPM (which registered raindrops between 0.125 and 8 mm in 20 channels) and an aerosol optical counter PCASP-X (registering particles with sizes between 0.1 and 10  $\mu\text{m}$  in 31 discrete channels), respectively. At the same time, a weather station provided complementary data.

Regarding precipitation, different parameters have been determined: the intensity, the total cross sections of raindrops, the total volume swept out by falling drops, as well as the mean raindrop size. Gamma and lognormal distributions were used for characterising raindrop and aerosol size distributions, respectively. To evaluate the effect of rain on aerosols, the evolution of particle concentration before, during and after the precipitation events has been analysed. Furthermore, the scavenging coefficient ( $\lambda$ ) and the relationship between the different variables have also been studied. In order to know the behaviour of the scavenging in the Greenfield gap (between 0.3 and 1  $\mu\text{m}$ ), three different aerosol size intervals have been established including particles i) below 0.3  $\mu\text{m}$ ; ii) between 0.3 and 1  $\mu\text{m}$  and iii) above 1  $\mu\text{m}$ . Preliminary results indicate a wash-out on the total mass of aerosols, also depending on the frontal passage.