

MODELLING OF ATMOSPHERIC DISPERSION OF PARTICLES RELEASED FROM CERAMIC INDUSTRIES OF CASTELLÓN (SPAIN).

De Pascual, A., Aceña, B., Palomino, I., Martín, F. Celades, I., Sanfelix, V., Monfort, E.
CIEMAT, Avda. Complutense 22, Madrid, 28040, Spain

In Castellon province sited in the Mediterranean coast of Spain, over 200 ceramic industries are located in an area around 400 Km². These industries release important amount of particles to the atmosphere from stacks (channeled emissions) and from storing areas, roads with trucks and mining activities (diffuse sources), since local clays are the main raw material.

In the framework of a national project, called DUSTCERAM and led by Instituto de Tecnología Cerámica (ITC), CIEMAT is being carried out modelling activities in order to simulate the atmospheric dispersion of particles released from ceramic industries in Castellon. The objective is to assess the air quality in the area complementing measurements from stations and to determine the area with probable exceedances of the EU air quality standards.

Meteorological modelling has been done with the MM5 model in nested domains for a set of meteorological scenarios representing most of the atmospheric conditions in the area. Simulations were compared with observations. Dispersion modelling were carried out with a Lagrangian puff model (MELPUFF) which includes a specific module for simulating the particles deposition. The dispersion model simulations were focused on the smallest domain. Results for PM₁₀ are discussed for several scenarios.