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Dust resuspension characteristics over several quarries of limestone

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One of the most important physical properties of the soil on ground surface is its ability to be involved on dust resuspension influenced by mechanical processes. Dust resuspension process depends on several factors. Some of them are soil properties, soil moisture, vegetation, paved/unpaved state, as well as the type of mechanical process, like wind, traffic, etc. Taking into consideration all these soil properties and environmental factors we determine dust resuspension rate.
In this study we have conducted measurements on aerosol size distributions over several dust types, on different meteorological conditions. Aerosol size distributions measured on our measurements belong to sub-micrometric and micrometric size ranges. This is the size range which is the most influenced by resuspension processes.
Places where there are carried out the experimental measurements are limestone quarries. Experimental procedure was conducted under fair weather meteorological conditions.
Overall results of our measurements give valuable information about the ability of these soils to be involved on dust resuspension processes. The comparison of the concentrations of particulate matter over investigated areas indicates the contributions of different soil properties on dust resuspension process.
In short, this study helps also on the estimation of air pollution on the areas with different soil types. These results let to estimate the real contribution of the activities carried on limestone quarries on aerosol number concentrations.