

The invention relates to a device and a process for capturing solid particles of air pollutants with nano- and micrometer sizes to study their composition, namely for identifying factors that pollute the atmosphere, and can be used for monitoring environmental quality.

The device, according to the invention, comprises a dielectric frame (2), installed vertically, in which is fixed a plate of silicon single crystal (1), and a tungsten filament (4) of a diameter of 30 μm , fixed on dielectric supports (3), at the same time the plate (1) and the filament (4) are connected to a high voltage source (5), the filament (4) being connected to the positive pole of the source (5).

The process, according to the invention, consists in placing the device described above nearby the source of environmental pollution, after which is connected the source (5) by applying to the filament (4) a positive potential of 5 kV, at the same time, positively charged solid particles of air pollutants, under the action of the electrostatic field between the filament (4) and the plate (1), are attracted by the latter and settle on its surface, then is disconnected the source (5) and is removed the plate (1) from the frame (2) for the study of solid particles settled on the plate (1) by the methods of atomic-force microscopy and energy dispersive X-ray spectroscopy.

Claims: 2

Fig.: 5

