

PRELIMINARY CHARACTERIZATION OF FILAMENT DEPOSITION NEAR VENICE

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Introduction

Wide formations of white-thin filaments which look like spider webs were repeatedly observed as deposition on the grass and other exposed surfaces in the area of the San Giuliano Park in Mestre-Venice.

Filaments were visible to the naked eye only against the light on surfaces that can offer enough contrast. Filaments on-site appeared to be whitish, reflecting, highly flexible and resistant.

The deposition of filaments covered a very large scale in asymmetric random patterns. Nodes with aggregation of material were observed.

Sampling

Samples of filaments were collected from different sites of the park, gathered together and treated as one representative sample of the entire area.

Optical microscopy and Electron Scanning Microscopy were used for studying morphology and chemical composition of the sample.

Results

Filaments visible to the naked eye consisted of a multitude of bundles of fibers. The core fibers showed diameters around 100 nm.

All the filaments resulted composed mainly of Carbon.

Those filaments which underwent a stretching during sample preparation showed a tangled and frayed form.

Silicon containing particles with diameters around the micron were observed among the fibers.

Other particles containing Aluminum, Calcium, Sodium and Iron were also detected.

Some photographs of the sampling site and some micrographs taken during the analysis are presented.



Examples of deposition of filaments on the grass.



Example of deposition of filaments on the grass.