

## **EVALUATION OF TREATMENT EFFECTS IN COLD PLASMA APPLIED IN THE CONSERVATION PROCESS OF CULTURAL HERITAGE OBJECTS THROUGH SCANNING ELECTRON MICROSCOPY**

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Evaluation criteria for a physico-chemical method to be employed in restoration-conservation purposes have on its basis the fundamental principles of restoration of cultural objects. Concurrently the real possibilities and conditions for implementation in a museum laboratory are envisaged. The conservator scientist is naturally tempted to apply new techniques and new products. Each of the cultural object represents a particular and complex case, to be carefully analyzed and demands an optimum solution for a long-lasting preservation. Previously we have been applied successfully high frequency plasma on historical objects and we have also applied it on polymeric materials.

This work is devoted to restoration of cultural heritage objects by applying of high frequency plasma implying decontamination. The primary goal of this research was to explore the capability and the limitations of utilizing the air plasma techniques for textile fabrics from cultural heritage objects decontamination. A second goal was to determine change in physical state of natural fiber surface due to plasma treatments by scanning electronic microscopy methode. Plasma acts in modifying chemically and topographically the surface of the fiber without affecting it in its interior. Scanning electron microscopy constitutes one of the most important method used for investigation of the surfaces.

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