CONTRIBUTIONS TO THE STUDY OF HEAVY METALS POLLUTING FROM THE ENVIRONMENT, BY ATOMIC SPECTROMETRY

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PhD Thesis Summary

Abstract. *In this scientific work are presented a part of the results included in the thesis entitled "Contributions to the study of heavy polluting elements from the environment by atomic spectrometry" which includes the innovative contributions to the study of the distribution of heavy metals in acacia leaves collected from Dâmbovița county and neighboring counties and the distribution of heavy metals from surface and deep soil collected from the main oil parks in Dâmbovița county. In the analysis of heavy metal concentrations in the studied samples, the spectrometric techniques were used: Atomic Absorption Spectrometry (AAS) and Energy Dispersive X-Ray Fluorescence Spectrometry (EDXRF), which were successfully optimized and provided valuable information used in following studies, to assess degree of heavy metal pollution of the environment. These methods were used in a complementary way with the biomonitoring technique in order to have as complete information as possible of the elemental composition of the analyzed samples.*

Keywords: atomic spectrometry, atomic absorbtion, X-ray fluorescence, heavy metal, environment

1. Introduction. Motivation of the study

Environmental pollution with heavy elements has become, in recent years, a pressing problem faced by the entire population of the Earth, due to increasing human activities [1 – 11]. Heavy metals have a potentially toxic effect on all living organisms, at concentrations above the maximum biologically acceptable limit. Toxic heavy metals are considered to be the invisible enemies that man faces in everyday life, especially through food, because they can accumulate in the tissues and vital organs of the body, triggering major health problems over

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