## O 71.  DETERMINATION OF ZINC AND COBALT BY VOLTAMMETRIC METHOD

Abdullah Nadeesh[1*], Keziban Atacan[2], Ozlem Sahin[1]

[1] *Department of Chemical Engineering, Konya Technical University, 42079, Konya, Turkey*
[2] *Biomedical, Magnetic and Semiconductor Materials Research Center, Sakarya University, 54187, Sakarya, Turkey.*

*E-mail: osahin@ktun.edu.tr*

**ABSTRACT:** Metal ions are biological toxicity to living organisms and accumulate in the food chain, which causes several health problems such as kidney deficiency, lung problems, hypertension and nervous system failure (Azmi et. all, 2017). Zinc (Zn) and cobalt (Co) are the metals that appear together in many real samples. These metals are among toxic metals of importance for environmental observation, food control and toxicology. Rapid, accurate and reliable techniques are required for the detection of these metals. Various methods can be used to detect heavy metals, including inductively coupled plasma-mass spectrometry (ICP-MS), inductively bound plasma atomic emission spectrometry (ICP AES) and atomic absorption spectrometry (AAS), and electrochemical methods. Among all commonly used techniques for the detection of heavy metals, electrochemical methods have advantages over spectrometric techniques. Electrochemical methods are cheap, highly accurate, easy to use, fast, portable and can be applied for field monitoring of environmental samples. Especially, the differential pulse anodic stripping voltammetry (DPASV) is a powerful and precise technique for the detection of heavy metals (Susom Dutta et. all, 2018). In this study, the $CuFe_2O_4$-rGO composite was synthesized and the glassy carbon electrode surface has been modified. The detection of Zn and Co were conducted by stripping voltammetry.

*Keywords: Electrochemical detection, cobalt, zinc, voltammetry.*

## REFERENCES

Susom Dutta, G. S. (2018, ekim 22). Gold Nanostar Electrodes for Heavy Metal Detection. *Sensorsand Actuators B*.

N.A.Azmi (2017, Şubat 1). Investigating film structure of membrane-based colorimetric sensor for heavy metal detection. *Journal of Water Process Engineering*, s.37-42.–504.