

## The usage of ion chromatography (IC) in water analysis of inorganic anions and cations

Vesna KOSTIC and Milan NIKODINOSKI

*Republic Institute of Health Protection, str. "50 Divizija" No.6, P.O. Box 577, 1001 Skopje, Republic of Macedonia*

---

**Abstract.** Ion chromatography is evaluated as a substitute method of analysis of environmental water samples for different ionic species as: fluoride, chloride, nitrate, sulphate, bromate, phosphate, bromide, sodium, potassium, magnesium, calcium etc. This method would replace several different wet chemical methods prescribed by the environmental protection agency (EPA). Statistical comparison of the data indicates that the IC method of analysis is equivalent or superior to the prescribed wet chemistry methods for water samples. In our investigation 200 samples of mineral waters have been analyzed on the content of fluoride, chloride, nitrate, sulphate, sodium, potassium, calcium and magnesium with ISC-90 ion chromatography system (Dionex) with the conductivity detection. There is a great advantage of IC in the analysis of cations over flame atomic absorption spectrometry (FAAS) in determination of potassium and magnesium.

*Key words:* anions, cations, ion chromatography (IC), flame atomic absorption spectrometry (AAS)

---