Unsolved analytical problems with C/S element analyzer and FAAS

Meeting of the Heads of the Laboratories

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Determination of Ca, Mg using FAAS

PerkinElmer Analyst 200
Flame: air-acetylene
Wavelength:
- Ca 422.7 nm
- Mg 285.2 nm
Interferences:
- ionization (KCl)
- reduced sensitivity (La$_2$O$_3$)
Sample preparation for Ca, Mg analysis

Aqua Regia digestion with Behr SMA-ARM workstation
sample weight: ~ 300 mg
temperature: 145 °C
time: 2 hours
Ca measurements of the mineral reference soil sample
Mg measurements of the mineral reference soil sample

![Graph showing Mg measurements for different conditions](image)
Determination of C, S using element analyzer

ELTRA CS-530
Calibration:
Eltra CRM
4.25±0.04 % S
50.9±0.4 % C
Sample weight: 200-300 mg
Total C measurements of the mineral reference soil samples
Total C measurements of the mineral reference soil samples
Total S measurements of the reference soil samples
Suggested instruments

- Perkin Elmer AAS PinAAcle 900 series
- ICP-OES
- EuroVector CHNS-O Elemental Analyser. EA3000 Series
Thank you for attention!