

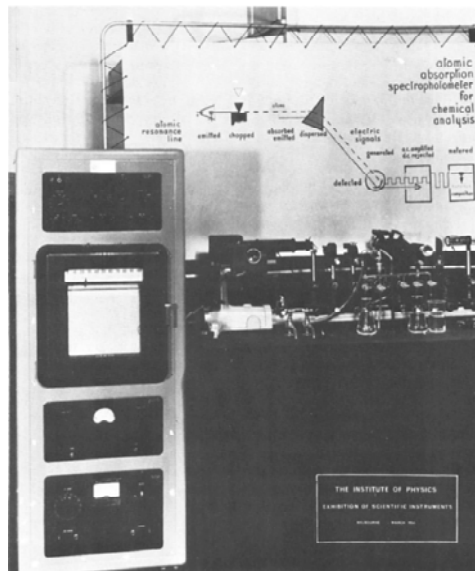
Objective: atomic absorption spectrometry (AAS) is an easy, high-throughput, and inexpensive technology used primarily to analyze elements in solution. As such, AAS is used in food and beverage, water, clinical research, and pharmaceutical analysis.

Also, AAS is a technique for measuring the concentrations of metallic elements in different materials.

In addition, AAS is an instrumental analysis technique for rapid trace metal analysis.

Last but not least, AAS can be used to detect elements in either liquid or solid samples through the application of characteristic wavelengths of electromagnetic radiation from a light source.

Operating principle: the atomic absorption spectrum of a sample in order to assess the concentration of specific analytes within it. It requires standards with known analyte content to establish the relation between the measured absorbance and the analyte concentration and relies therefore on the Beer - Lambert law. Free atoms (gas) generated in an atomizer can absorb radiation at specific frequency. AAS quantifies the absorption of ground state atoms in the gaseous state. The atoms absorb ultraviolet or visible light and make transitions to higher electronic energy levels. The analyte concentration is determined from the amount of absorption.



First AAS exhibited by Walsh (7), CSIRO Division of Chemical Physics, Melbourne, Australia.