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Multi-elemental INAA and CF-LIBS techniques for analysis of rocks of Ethiopian Tropical forest area of Tepi DILBETIGLE MAMO, CHAUBEY ASHOK, Addis Ababa University — Extensive use of minerals in the world entails the evaluation of major, minor and trace element contents in rocks of different areas. Instrumental neutron activation analysis and calibration free laser induced breakdown spectroscopy were successfully employed to identify and determine the concentration of elements in the rock samples which are collected from the untouched tropical forest area of Ethiopia. Using both techniques 26 minerals are identified and the concentration of each element was estimated and compared to one another. Due to the weak neutron source and the technique limitation, only eight elements of the rock samples were identified by neutron activation analysis. This study provides the baseline value of certain essential minerals in the rocks of studied area and the result shows that the studied area has great potential for mining of Pt and Zn elements. The performances of two analytical methods have been compared. Concentration analysis was done using a Calibration Free-laser induced breakdown spectroscopy algorithm in MATLAB environment.

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