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Title: Industrial applications using 14 MeV neutrons at KFUPM

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Abstract: The objective of this study is to develop a database for the technical capability of the KFUPM 14 MeV Neutron Activation Analysis (NAA) Facility for applications to various local industries in the Kingdom. Since the 14 MeV NAA is a well-established non-destructive, rapid and sensitive technique for elemental bulk analysis, the applications of the technique are spread over wide areas such as oil, petrochemicals, metal and mining, medicine, agriculture and environment. The applications are mostly done for determination of light elements such as oxygen, nitrogen, fluorine, silicon and phosphorus, which are relatively difficult to determine by other methods. The results of the analysis are mainly used for quality and process control. The progress made in developing the KFUPM 14 MeV NAA Facility for industrial applications will be summarized. Preliminary results of the analysis of the data collected using the facility will be presented and discussed.