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Sommario/riassunto

This publication addresses recent developments in neutron generator (NG) technology. It presents information on compact instruments with high neutron yield to be used for neutron activation analysis (NAA) and prompt gamma neutron activation analysis in combination with high count rate spectrometers. Traditional NGs have been shown to be effective for applications including borehole logging, homeland security, nuclear medicine and the on-line analysis of aluminium, coal and cement. Pulsed fast thermal neutron analysis, as well as tagged and timed neutron analysis, are additional techniques which can be applied using NG. Furthermore, NG can effectively be used for elemental analysis and is also effective for analysis of hidden materials by neutron radiography. Useful guidelines for developing NG based research laboratories are also provided in this publication.
