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### Research Article

## Characterization and Application of the Thermal Neutron Radiography Beam in the Egyptian Experimental and Training Research Reactor (ETRR-2)

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### Abstract

The Experimental, Training, Research Reactor (ETRR-2) is an open of 22 MWth cooled and moderated by light water and reflected thermal column as the main experimental devices. The neutron beam tubes. The track-etch technique using nitrocellulose films is used to determine the characteristics of the radial neutron beam for the thermal neutron radiography facility has been determined: thermal flux of  $1.5 \times 10^7$  n/cm<sup>2</sup>s, n/γ ratio of 0.188, resolution of 0.188 mm, and L/D ratio of 117.3. This characterization provides promising opportunities for nuclear as well as nonnuclear applications. Various radiographs were taken and results indicate that the reactor is a promising opportunities for nuclear as well as nonnuclear applications.

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