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The Unique Capabilities of Radiation Beam Lines at Necsa as Probes

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The concept of radiation, in the scientific and analytical environment is normally not understood and has been neglected and not considered as analytical probe due to the lack of knowledge of the general public and researchers about its potential as analytical probe, the misunderstanding of the possible “danger” in the utilization thereof and the “unavailability” of facilities in South Africa for researchers to utilize. Gamma-rays, neutrons and X-ray’s have not any significance for a researcher unless they are controlled and directed in beams with considerable intensity. These collimated beams have major potential in revealing the “unknown” information normally hidden within the objects under investigation e.g. nuclear materials, museum artifacts, precious fossils, concrete, etc. This paper is an introduction to the unique properties of neutron- and X-ray radiation beams in general. The capabilities of these beams as analytical probes are discussed with special attention to the beam line facilities located at Necsa. The availability of these beam lines to be utilized by post graduate students and researchers will be highlighted.

**Level (Hons, MSc,
 PhD, other)?**

Other

**Consider for a student
 award (Yes / No)?**

No

**Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?**

Yes

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