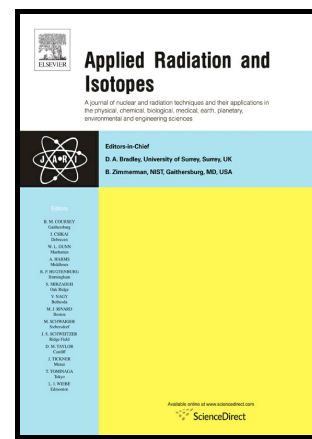


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# Rapid and accurate assessment of the activity measurements in Brazilian hospitals and clinics

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## ABSTRACT

Traceability in Nuclear Medicine Service (NMS) measurements was checked by the Institute of Radioprotection and Dosimetry (IRD) through the Institute of Energy and Nuclear Research (IPEN). In 2016, IRD ran an intercomparison program and invited Brazilian NMS authorized to administer <sup>131</sup>I to patients. Sources of <sup>131</sup>I were distributed to 33 NMSs. Three other sources from the same solution were sent to IRD, after measurement at IPEN. These sources were calibrated in the IRD reference system. A correction factor of 1.013 was obtained. Ninety percent of the NMS comparisons results are within  $\pm 10\%$  of the LNMRI value, the Brazilian legal requirement.

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Keywords: Traceability; intercomparisons; quality control; radionuclide calibrator; <sup>131</sup>I; activity; nuclear medicine service

## 1. Introduction.

Nuclear medicine is critically dependent on the accurate, reproducible performance of radionuclide measurement in hospitals and clinics. This kind of measurement performed using a National Metrology Institute (NMI) as a reference can provide traceability to higher level of

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