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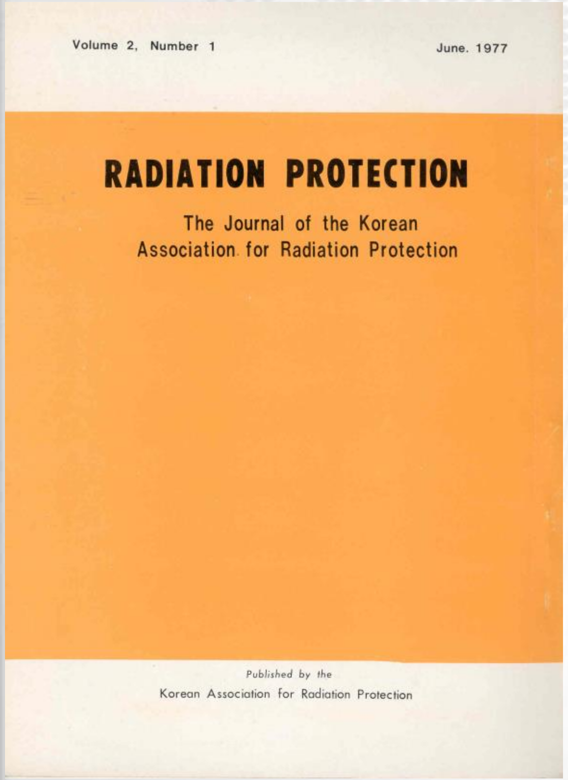

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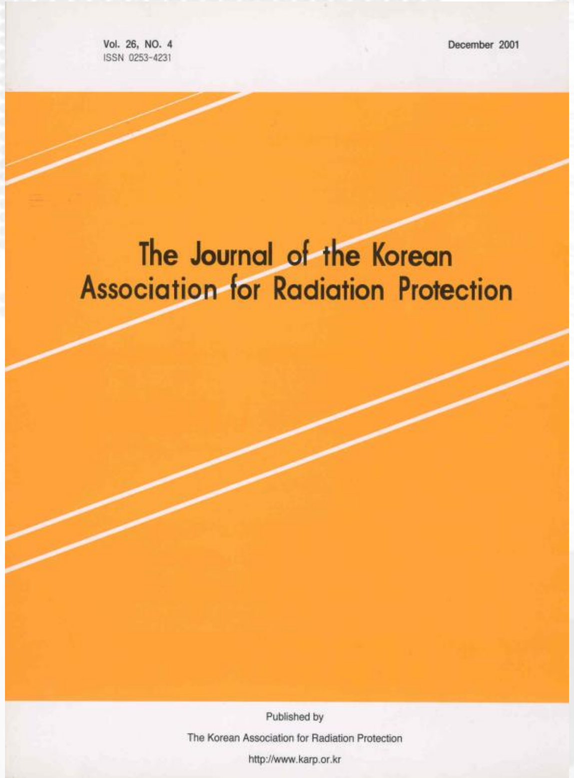

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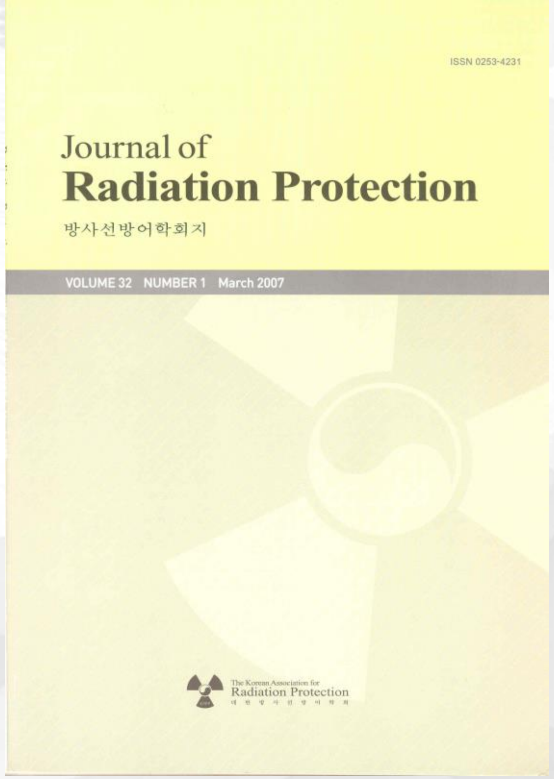

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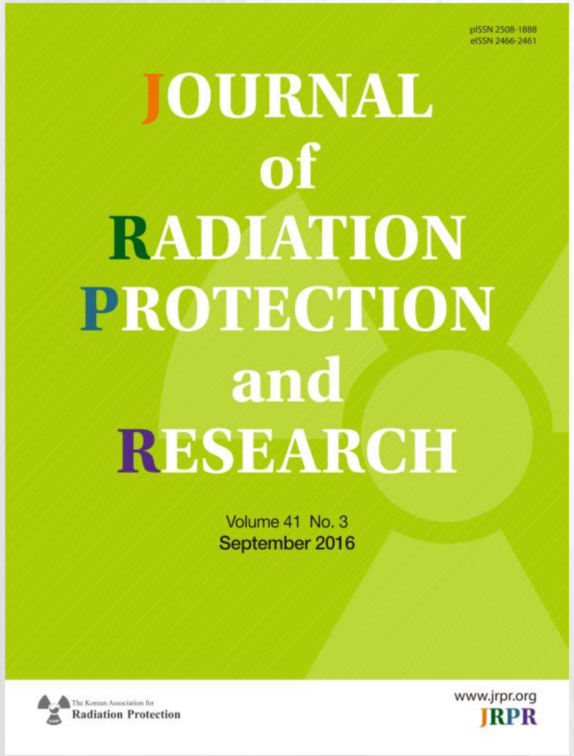

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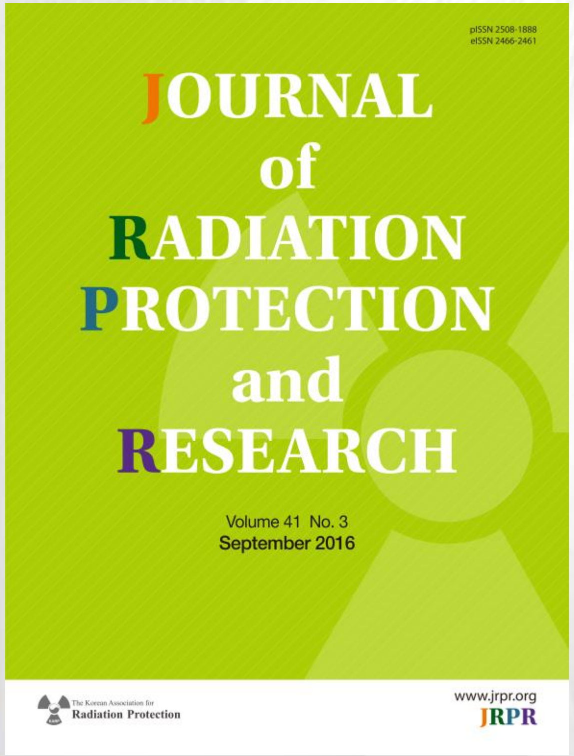

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Comparison of Machine Learning-Based Radioisotope Identifiers for Plastic Scintillation Detector

Byoungil Jeon[1], Jongyul Kim[2], Yonggyun Yu[1], Myungkook Moon[2]

[1]Artificial Intelligence Application & Strategy Team, Korea Atomic Energy Research Institute, Daejeon, Korea; [2]Neutron Science Division, Korea Atomic Energy Research Institute, Daejeon, Korea

ABSTRACT

Background: Identification of radioisotopes for plastic scintillation detectors is challenging because their spectra have poor energy resolutions and lack photo peaks. To overcome this weakness, many researchers have conducted radioisotope identification studies using machine learning algorithms; however, the effect of data normalization on radioisotope identification has not been addressed yet. Furthermore, studies on machine learning-based radioisotope identifiers for plastic scintillation detectors are limited.

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Keywords: Plastic Scintillation Detector, Radioisotope Identifier, Machine Learning, Deep Learning, Data Normalization

Original Research

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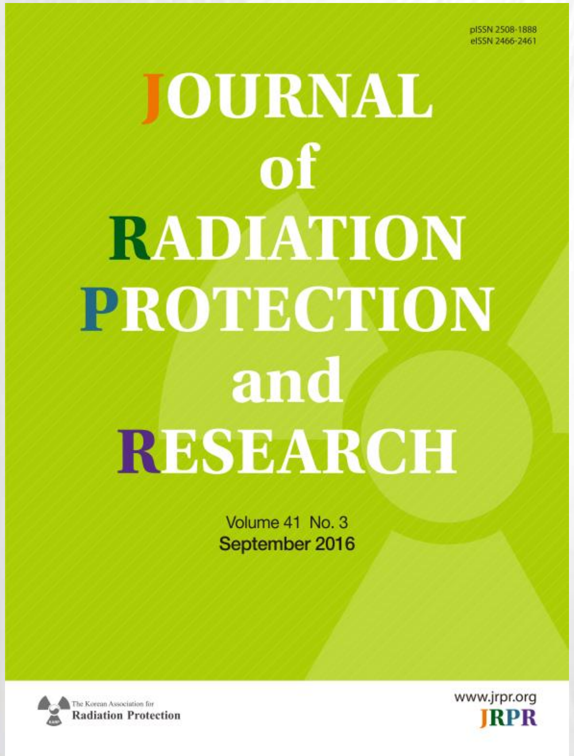

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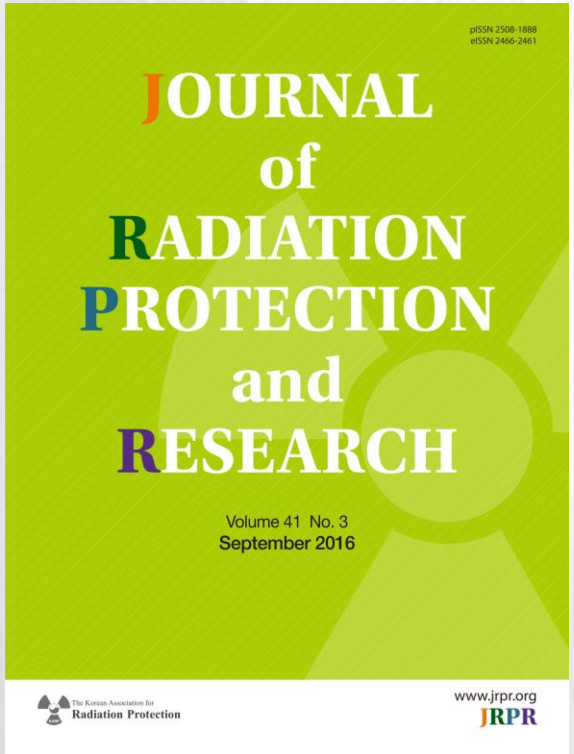

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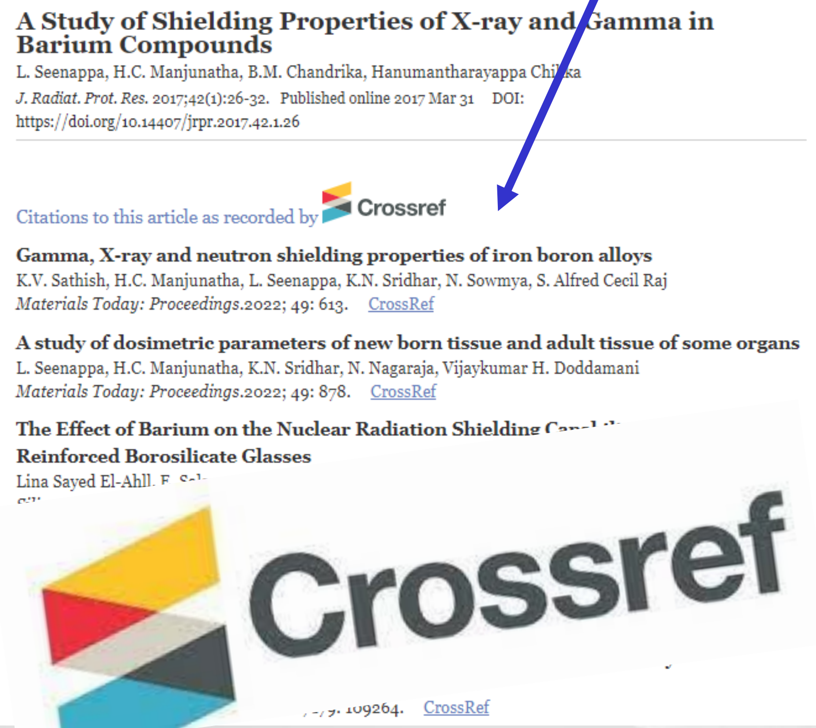

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Original Research

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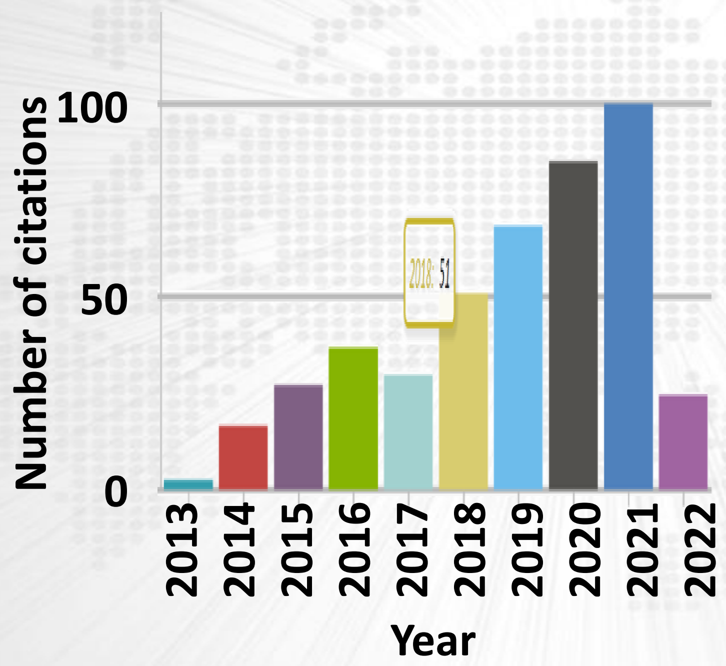

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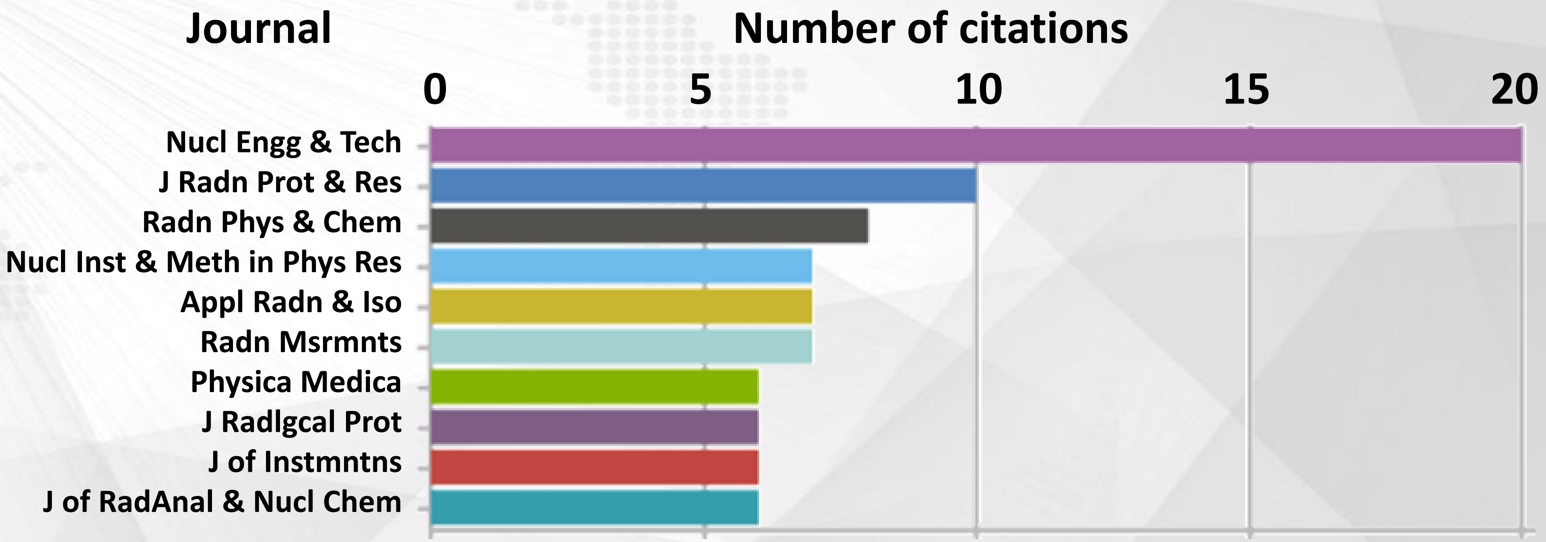

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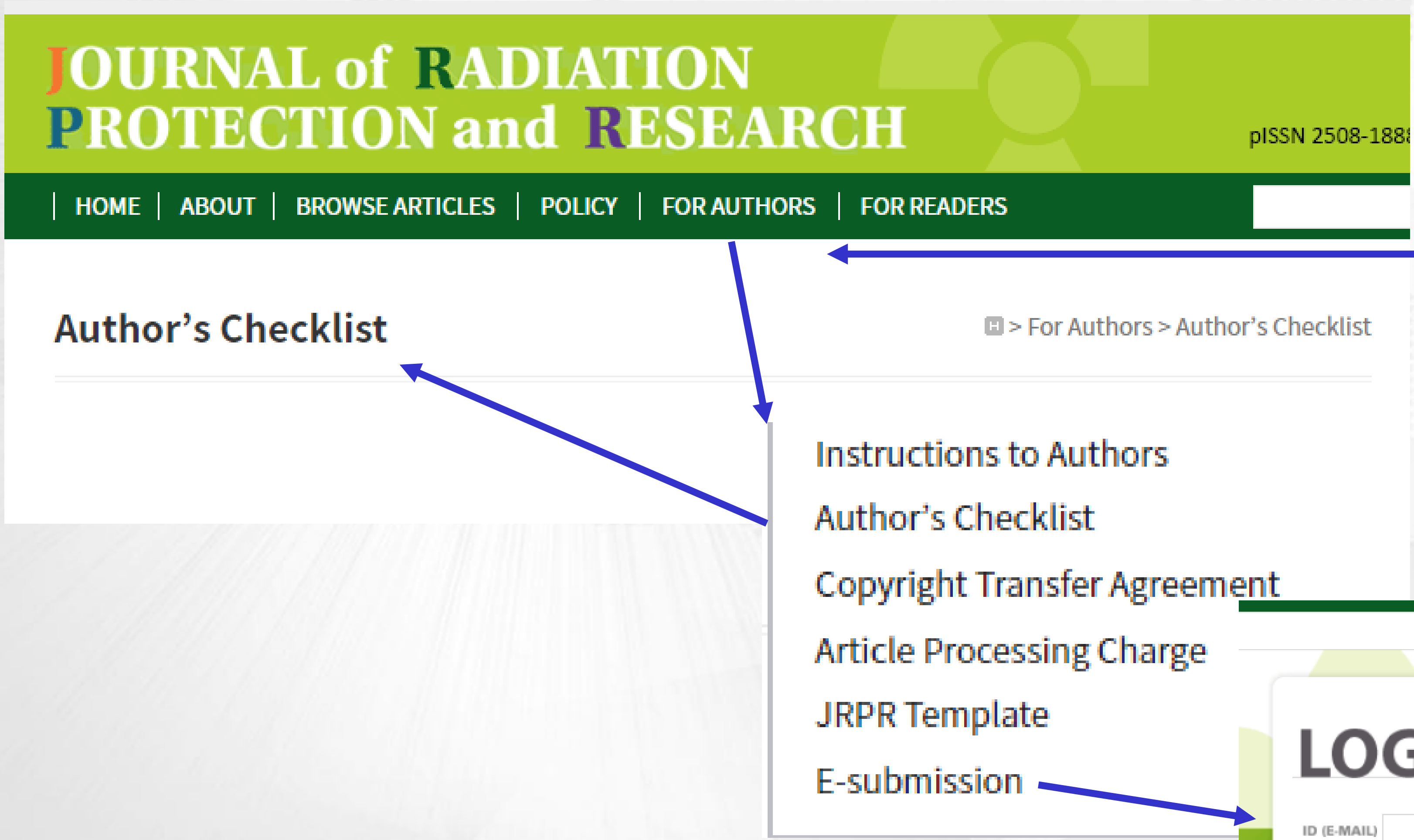

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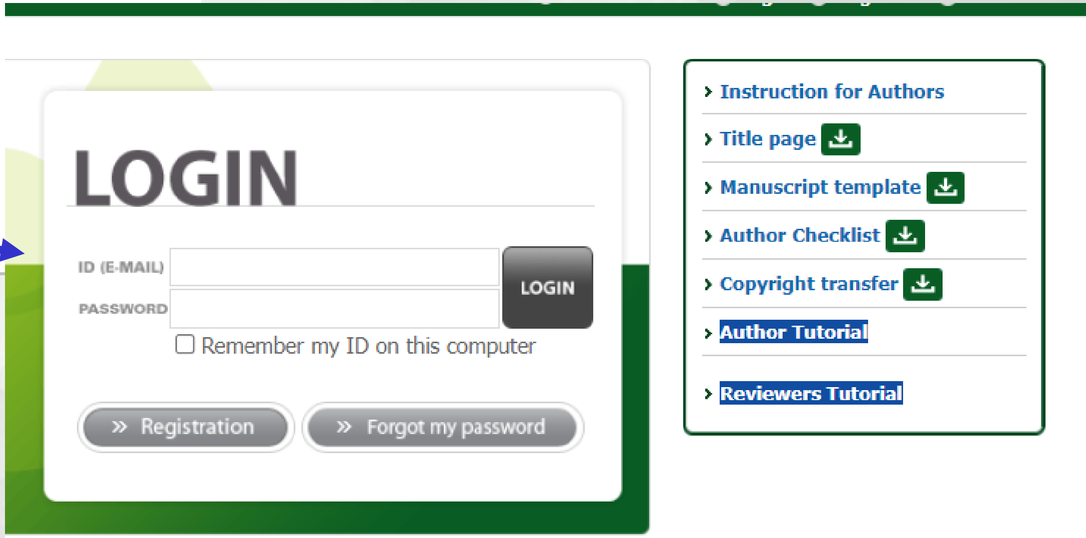

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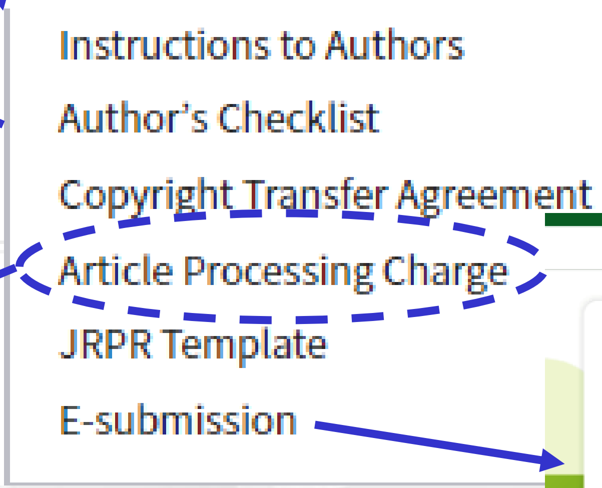

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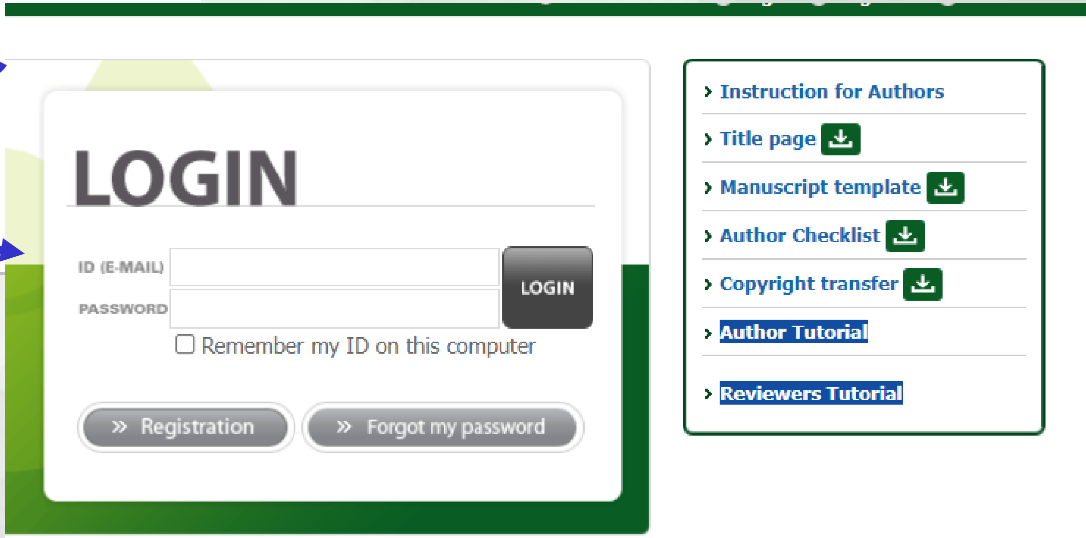

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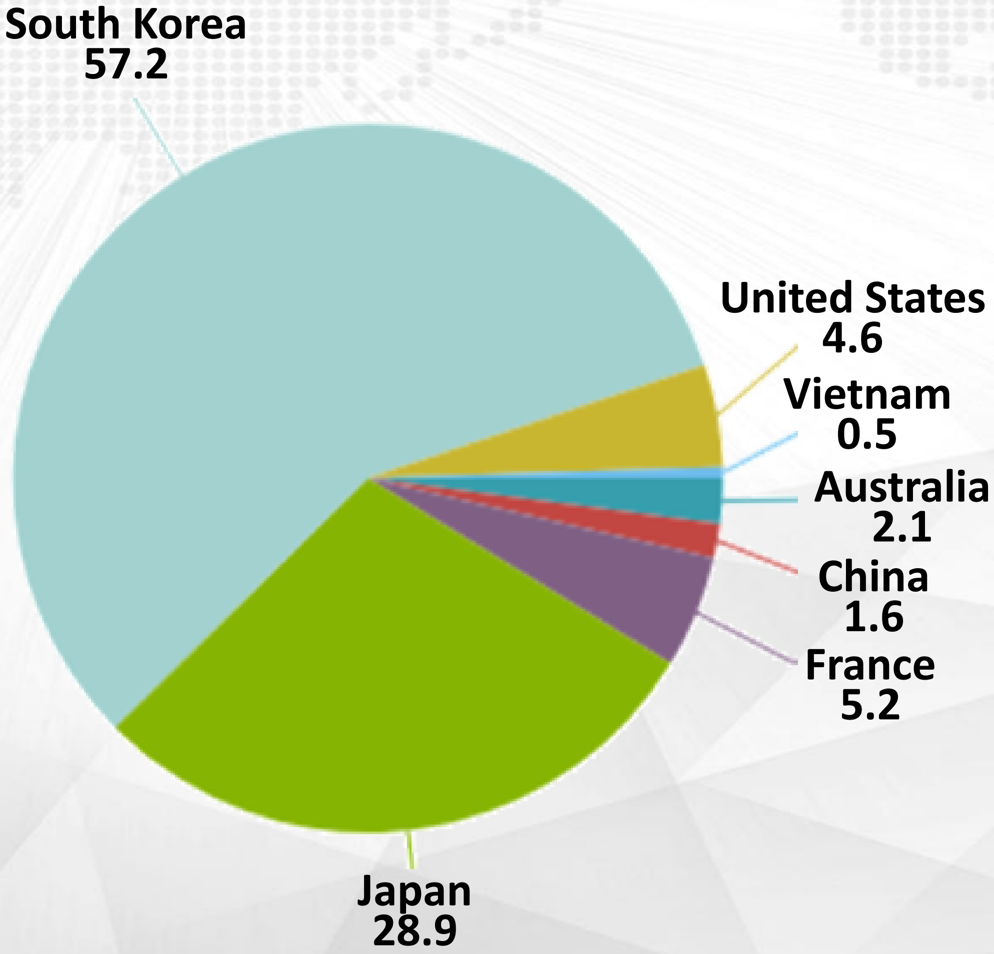

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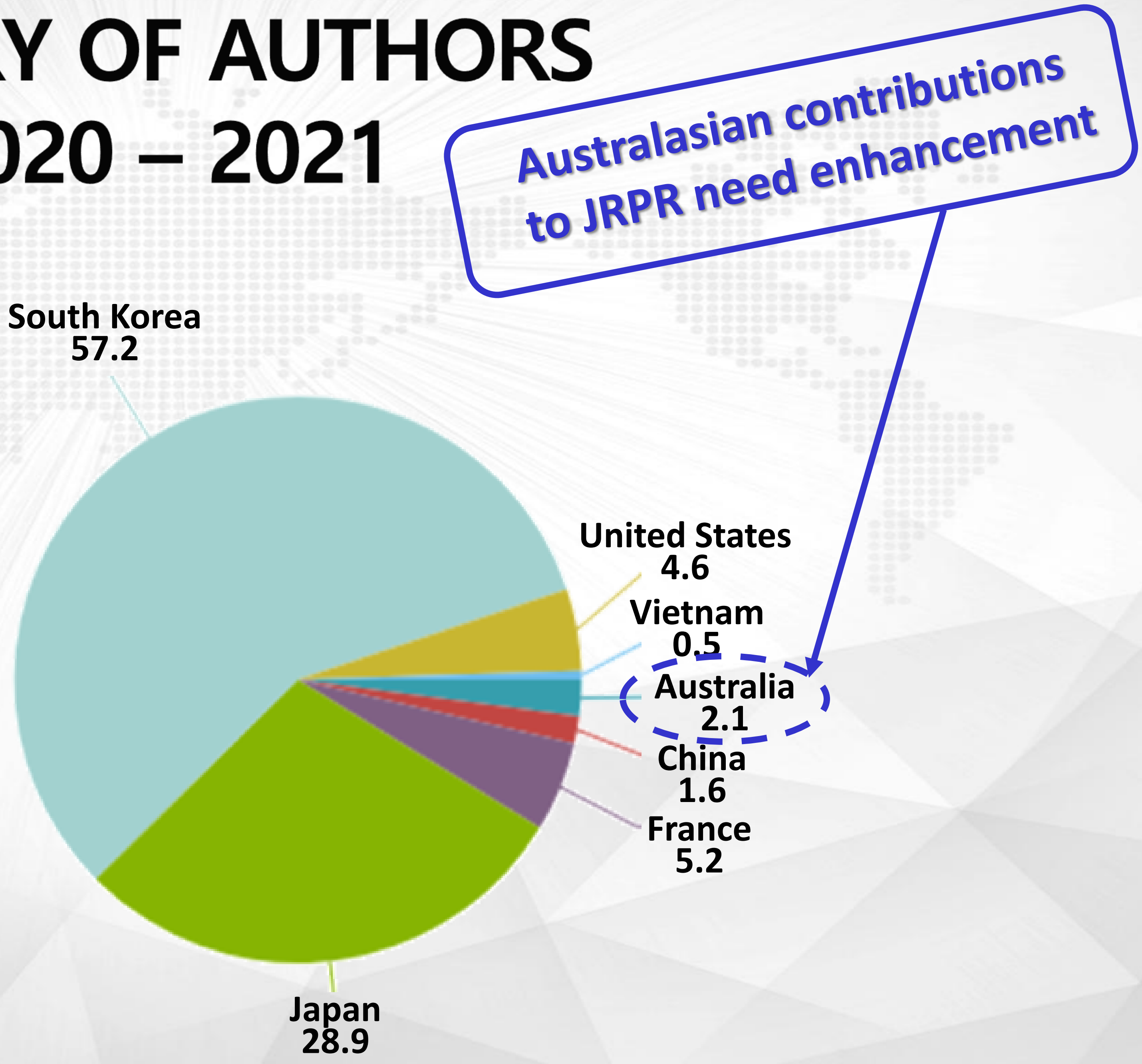

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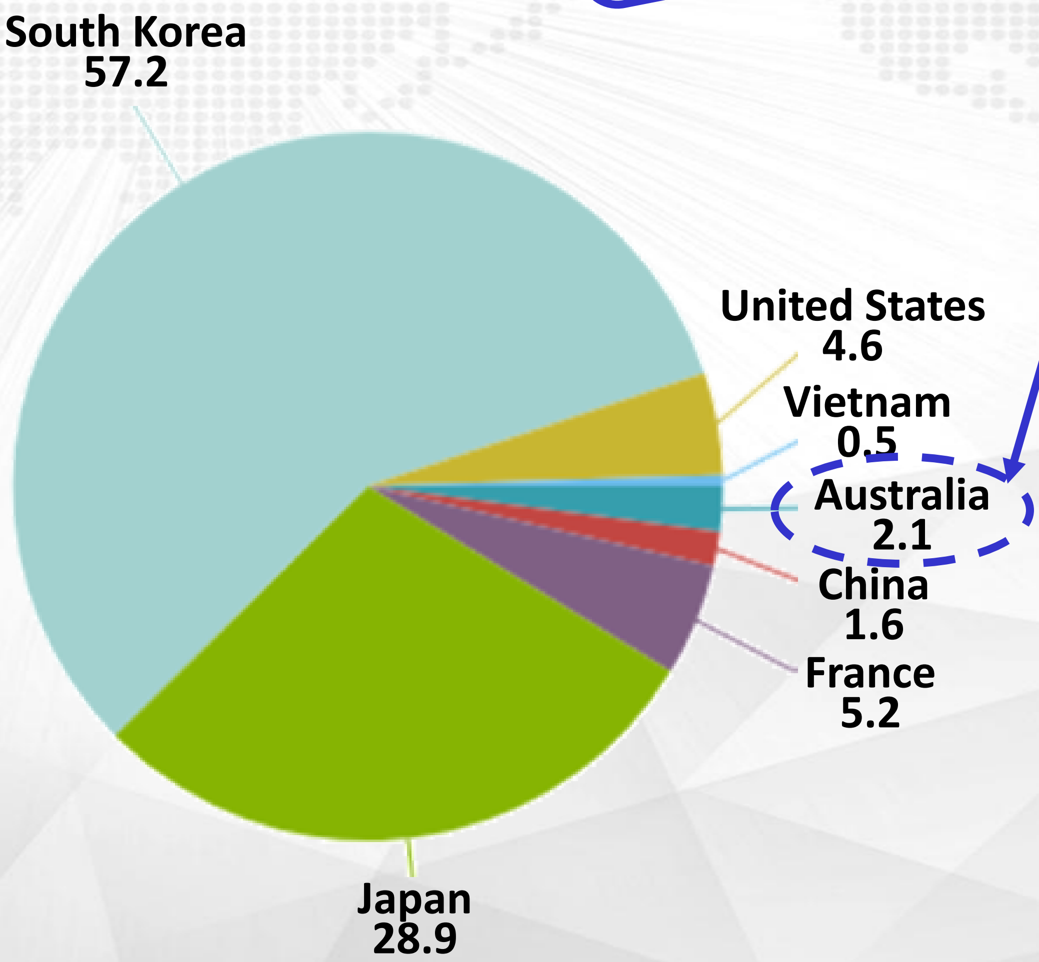

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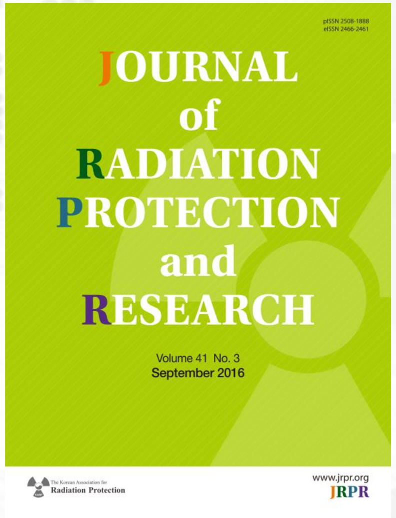

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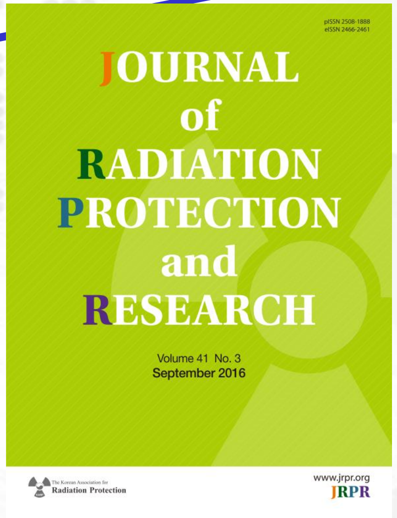

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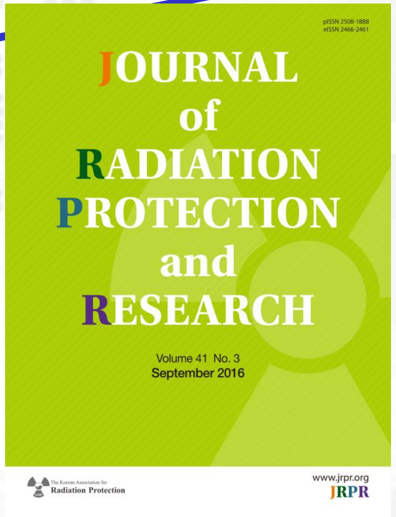

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