

## Symposium on Nuclear Data 2020

Ag102 12.9 m	Ag103 65.7 m	Ag104 69.2m	Ag105 41.29 d	<b>S</b> ymposium on	Ag107 51.839 %	Ag108 2.37 m	Ag109 48.161 %	Ag110 24.6 s	Ag111 7.45 d	Ag112 3.130 h
Pd101 8.47 h	Pd102 1.02 %	Pd103 16.991 d	Pd104 11.14 %	Pd105 22.33 %	<b>N</b> uclear	Pd107 8.36 s	Pd108 26.46 %	Pd109 11.7002h	Pd110 11.72 %	Pd111 33.4 m
Rh100 20.8 h	Rh101 3.3 y	Rh102 2.7 d	Rh103 100 %	Rh104 42.3 s	Rh105 37.95 h	<b>D</b> ata	<b>2020</b> Nov.	Rh108 3.0 m	Rh109 89 s	Rh110 3.3 s

Contribution ID: 25

Type: **Oral Presentation**

## Nuclear data generation using machine learning

We have developed a method to generate nuclear data using Gaussian process regression (GPR) [1], which is one of the machine learning techniques. This method generates nuclear data by treating measured data as the training data in machine learning. GPR is based on nonparametric Bayesian inference, the generated nuclear data are expressed as a predictive distribution including uncertainty information. In this presentation, the basics of the Gaussian process model, some examples of the application to nuclear data generation, and other related topics will be presented.

[1] H. Iwamoto, "Generation of nuclear data using Gaussian process regression", Journal of Nuclear Science and Technology, 50:8, 932-938 (2020).

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