

 Open access • Journal Article • DOI:10.1063/5.0006816

## Characterization of descriptors in machine learning for data-based sputtering yield prediction — [Source link](#)





Hiori Kino, Kazumasa Ikuse, Hieu-Chi Dam, Satoshi Hamaguchi

**Institutions:** National Institute for Materials Science, Osaka University, Japan Advanced Institute of Science and Technology

**Published on:** 11 Jan 2021 - Physics of Plasmas (AIP Publishing LLC AIP Publishing)

Related papers:

- [Structure and Dynamics of Many-Particle Systems: Big Data Sets and Data Analysis](#)
- [Machine Learning at the Atomic Scale](#)
- [Machine learning enabled discovery of application dependent design principles for two-dimensional materials](#)
- [Predicting Material Properties Using a 3D Graph Neural Network with Invariant Local Descriptors.](#)
- [Topological Descriptors Help Predict Guest Adsorption in Nanoporous Materials](#)

Share this paper:    

View more about this paper here: <https://typeset.io/papers/characterization-of-descriptors-in-machine-learning-for-data-22647dhqax>

		target	ion
fundamental	atom	( <b>Z</b> )	( <b>Z</b> )
		<b>mass</b>	<b>mass</b>
density	crystal	density	
elasticity	crystal	bulk modulus	
thermodynamic energy	crystal	melting point	melting point
	liquid	boiling temperature	boiling temperature
	gas	evaporation heat	evaporation heat
binding energy	crystal	<b>heat of formation</b>	
length	atom	atomic radius	atomic radius
	crystal	vdw radius	vdw radius
		covalent radius slater	covalent radius slater
electric energy	atom	first ionization potential	first ionization potential
	crystal	workfunction	
incident energy			( <b>E</b> )

Table 1: Theory-driven feature categories. Descriptor features not used in this study are indicated by brackets.