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Machine Learning of Parameters for Structural PET Foam Milling

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Abstract

Structural PET foam has a plethora of industry applications, such as inlays for wind turbine blades. However relevant material properties, especially mechanical characteristics, vary significantly between foam types. With new foam compositions being continuously developed by leading vendors, there naturally is limited empirical data in literature on optimal milling parameters for these novel foams. To investigate the milling behavior, raw machine tool data was collected for a test series. Using these data, several distinct process features were calculated. The features were then used to evaluate the performance of several machine learning algorithms in regard to their predictive accuracy.

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