Predicting composite ultimate failure with support vector machines: a comparison of classical and quantum kernels

G. Tosti Balducci[1], B. Chen[1], M. Möller[3], M. Gerritsma[2], R. de Breuker[1]

[1] TU Delft, Aerospace Structures and Materials
[2] TU Delft, Flow Physics and Technology
[3] TU Delft, Applied Mathematics

Introduction

- why using data-based substructures?
- prototypical substructures (OHCP)
  - symmetric, quasi-isotropic

SVM and kernels

SVM equation; kernels in the svm equation; RBF kernel; quantum kernels; kernel-target alignment.

Results

test accuracy vs C (pre-/post-alignment)

Open questions

tbd

References

[1] http://www.lipsum.com/feed/html