(base) C:\Users\YAOX0>cd C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al

(base) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>conda activate pymoo

(pymoo) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>python Fe\_Ni\_Ti\_Al\_single\_eq\_metamodel.py

R^2 of the metamodel on Ni3Ti weight percent:

0.9832720445602938

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9831902931228175

==========Single objective optimization=========

The minimum objective function value is: -0.8604276959473262

Optimized composition:

Ni = 19.66947870868862wt%

Ti = 4.51236576696226wt%

Al = 2.176469891705495wt%

wt% Ni3Ti = [12.37154934]

wt% Laves = [0.0917294]

wt% FCC = [0.19576461]

===================================================

(pymoo) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>python Fe\_Ni\_Ti\_Al\_single\_eq\_metamodel.py

R^2 of the metamodel on Ni3Ti weight percent:

0.9833526396123919

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9833411971753994

==========Single objective optimization=========

The minimum objective function value is: -0.8618948872346502

Optimized composition:

Ni = 19.501557123621023wt%

Ti = 4.630699535468047wt%

Al = 1.9691058761185154wt%

wt% Ni3Ti = [12.38503518]

wt% Laves = [0.]

wt% FCC = [0.24921821]

===================================================

(pymoo) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>python Fe\_Ni\_Ti\_Al\_single\_eq\_metamodel.py

R^2 of the metamodel on Ni3Ti weight percent:

0.9834216474278404

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.98307101044221

==========Single objective optimization=========

The minimum objective function value is: -0.8614045226732052

Optimized composition:

Ni = 19.78284415124284wt%

Ti = 4.555131362491288wt%

Al = 1.7530707179899951wt%

wt% Ni3Ti = [12.38496299]

wt% Laves = [0.09357702]

wt% FCC = [0.19414035]

===================================================

(pymoo) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>python Fe\_Ni\_Ti\_Al\_single\_eq\_metamodel.py

R^2 of the metamodel on Ni3Ti weight percent:

0.9833897321115102

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9840386392275364

==========Single objective optimization=========

The minimum objective function value is: [-0.86503249]

Optimized composition:

Ni = 19.58453992755296wt%

Ti = 4.659259567210791wt%

Al = 1.9987589656166898wt%

wt% Ni3Ti = [12.41739158]

wt% Laves = [0.]

wt% FCC = [0.23636782]

===================================================

(pymoo) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>python Fe\_Ni\_Ti\_Al\_single\_eq\_metamodel.py

R^2 of the metamodel on Ni3Ti weight percent:

0.9823859808203765

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9833289424184792

==========Single objective optimization=========

The minimum objective function value is: -0.8576087546215941

Optimized composition:

Ni = 19.70318860469653wt%

Ti = 4.550529725568383wt%

Al = 2.143442718336266wt%

wt% Ni3Ti = [12.34926469]

wt% Laves = [0.09080159]

wt% FCC = [0.21526296]

===================================================

(pymoo) C:\Users\YAOX0\OneDrive\SIMTech 2019\ATPL GAP funding project\(Started) Alloy design\Thermo-Calc Fe-Ni-Ti-Al>