(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:

0.982521769013782

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9849006281023196

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

The minimum objective function value is: -0.36136149460215516

Optimized composition:

Ni = 18.871490732460174wt%

Ti = 1.7541569504739876wt%

Al = 0.4816679337260954wt%

wt% Ni3Ti = [5.21289211]

wt% Laves = [0.]

wt% FCC = [10.04347269]

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

(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:

0.9822541682125788

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9839184733939521

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

The minimum objective function value is: -0.35847415578785435

Optimized composition:

Ni = 18.96890668982089wt%

Ti = 2.017473635461121wt%

Al = 0.27026864931432115wt%

wt% Ni3Ti = [5.21100007]

wt% Laves = [0.]

wt% FCC = [10.05790206]

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

(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:

0.9828870463617556

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9836524702200451

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

The minimum objective function value is: -0.350832106663411

Optimized composition:

Ni = 18.653645555059505wt%

Ti = 2.3051332611545465wt%

Al = 0.34026337561135556wt%

wt% Ni3Ti = [5.20920063]

wt% Laves = [0.]

wt% FCC = [10.09728528]

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

(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:

0.983772848657021

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9836901779510625

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

The minimum objective function value is: -0.325441475907033

Optimized composition:

Ni = 19.54761927547988wt%

Ti = 2.4762970603081573wt%

Al = 2.3512512274825403wt%

wt% Ni3Ti = [5.14558019]

wt% Laves = [0.]

wt% FCC = [10.20671307]

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

(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:

0.9834045037899786

R^2 of the metamodel on Laves weight percent:

0.9905219083601263

R^2 of the metamodel on FCC weight percent:

0.9840544055814757

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

The minimum objective function value is: -0.364263697264888

Optimized composition:

Ni = 19.164642622084756wt%

Ti = 1.568660074448645wt%

Al = 0.092053118710262wt%

wt% Ni3Ti = [5.20893441]

wt% Laves = [0.]

wt% FCC = [10.02679137]

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