

MatCalc 析出のための例題 一覧表

checked MDT 2017-07-30

注： デモ版で動くものとライセンス版で動くものの両方を記載しています

MatCalc 6.00 (0285)

Tutorial				www.matcalc.com のDocumentation の Scripts	
			mcs file	elements	
T14	introduction	recipitation calculations	t14	Fe, C	Cementite
T15	precipitation during 600°C		t15	Fe, C, Cr	Cementite, para, ortho
T16	precipitation during 600°C		t16	Fe, C, Cr	Cementite, M23C6
T17	multi-stage heat treatment		t17	Fe, C, Nb	NbC
T18	TTP (time-temperature-precipitation)		t18	Fe, C, Nb	NbC
Tutorial				www.matcalc.com のDocumentation の Tutorials	
T19	scripting		t19	Fe, C, Nb	NbC, Cementite
T20	grain growth		t20	Fe	
T21	strain induced precipitates		t21	Fe, C, Nb	NbC
T22	cell simulations : long-range-diffusion		t22	Fe, C	Fcc相中の炭素の拡散
例題				標準インストール先のHD内 Scripts	
scripts	script_menu	cell_simulation	diffusion	2d_diffusion_demo	Ni, Al, Ti
	templates			uphill_diffusion	Fe, C, Mn, Si
			dispersed	dissimilar_welding	Fe, C, Cr
			full_coupling	NbC	Fe, C, Nb
		equilibrium		al-mg-si	Al, Mg, Si
				scheil_simulation	Fe, C, Mn
				stepped_ni-al-cr	Ni, Al, Cr
		precipitation	fe-base		
			9_12_Crsteel	heat_treatment_9Cr	Fe, Al, C, Cr, Mn, Mo, N, Nb, Si, V, W Fcc,Bcc,NbC,AlN,VN,M3C,M7C3,M23C6,Laves,Zet
			AIN_prec_in_steel	aln_vn_austenite	Fe, Al, C, Mn, N, Si, V
				aln_austenite	Fe, Al, C, Mn, N
				aln_ferrite	Fe, Al, C, Cr, Mn, N
				TTP_aln_austenite	Fe, Al, C, Mn, N, Si
			low_alloy_steel	continuous_cooling	Fe, Al, C, Mn, N, Nb, S, Si, Ti
				martensite	Fe, Al, C, Cr, Mn, N, Si, V
				TTP-plot carbonitri	Fe, C, Mn, N, Nb, Si, Ti
		ni-base		inconel_718	Ni, Al, Cr, Fe, Mo, Nb, Ti Fcc, delta, γ' , γ''
MatCalc-Engineering からの例題					
Publications 2009Rad	multi-modal in UDIMET 720Li		P50, verion5.62		Ni, Al, B, C, Co, Cr, Fe, Mn, Mo, Ti, W
dislocation_density_evolution			dislocation_density_evolution		Fe, Al, C, N, Nb
X80_grain_growth			X80_grain_growth		Fe, C, Mn, Mo, N, Nb, Ti

		mcs file	elements
Equilibrium and non-equilibrium		E1	Fe, C, Mn
		E2	Al, Cu
	miscibility gap	E3	Fe, C, N, Nb, V
	carbide	E6	Fe, C, Cr
	Fe-Cu	E10	Fe, Cu
	Scheil	E20	Fe, Al, C, N, Nb, Ti
	grain boundary	E31	Fe, P, S
Precipitation kinetics	cementite	P1	Fe, C
	excess vacancies	P2	Al, Cu
	M23C6	P5	Fe, C, Cr
	AlN	P10	Fe, Al, C, Mn, N
	NbC P12		Fe, Al, C, Mn, N, Nb, Ti
	NbC AlN	P13	Fe, Al, C, Mn, N, Nb, Ti
	casting	P20	Fe, Al, C, N, Nb, Ti
	casting	P21	Fe, Al, C, Cu, Mn, N, Nb, S, Si, Ti
	Sigma 316L P30		Fe, C, Cr, Mn, Mo, Ni, Si
	TTP	P80	Fe, Cu
Thermo-physical property	DSC	TP20	Ni, Al, Co, Cr, Ta, Ti, W
Long-range diffusion, diffusivity	Darken uphill diffusion	D3	
	Diffusion of Aluminium	D30	Fe, Al
	Diffusion coefficients	D31	Fe
Thermal simulations	Heating	H1	no_ele

script は無し

Software	software architecture	#2011005
	Linling Matlab	#2011006
Equilibrium	Equilibrium vacancy concentration	#2014002
	Equilibrium trapping	#2016001
Precipitation	object hierarchy and interconnectivity	#2011001
	precipitate shape factor	#2011007
	diffusion in heterogeneous precipitation	#2011004
	Excess vacancies	#2014003
	Trapping kinetics	#2016002
Multi-component nucleation	multi-component transient nucleation	#2011003
	evaluation of interfacial energies	#2014001
	treatment of heterogeneous nucleation	#2011002
Microstructure	solid solution strengthening	#2105001
Special topic	8 pdf files	
	MatCalc approach	
Thermodynamic	Scheil Gulliver calculation	
kinetics	Modeling of precipitate/matrix interfacial energy	
	Nucleation sites for precipitates	
	Shape factors for precipitates	
Microstructure evolution	Vacancy concentration evolution	
	Grain growth using single class model	
	Grain growth using single class model	
Microstructure property	Yield-strength models	