

Jacobi matrix :

#	0	1	2	3	4	5	6	7
0	306991.22							
1	-37762.793	6050.4243						
2	1213.8352	-210.73676	84.6361					
3	130212.805	-22256.162	7362.3223	768440.0				
4	-14650.236	2279.1206	-214.66757	-25126.363	2115.3306			
5	20230.773	4532.519	-446.51218	-76706.92	2030.9542	6985861.0		
6	42.958508	-4.7918453	-0.09633363	-7.159875	-1.7184876	-9.593055	0.01719	
7	-1472465.4	131675.16	5666.7812	634316.6	83176.19	389889.12	-823.033	

Correlation matrix:

#	0	1	2	3	4	5	6	7
0	-1.0							
1	-2.7379484	1.0						
2	-0.58195037	1.8944004	1.0					
3	-2.623144	0.86356336	11.093933	-1.0				
4	-3.6574423	0.17640617	1.4654853	-1.1007534	-1.0			
5	0.27840868	3.0100083	0.6166852	-1.6003472	-2.56908	1.0		
6	-1.9371381	1.1806421	1.159257	0.97736293	0.60518795	-2.3171697	1.0	
7	0.31172383	-2.4336932	-0.983239	-3.4154925	-2.5617738	1.2808795	-2594.0	

Correlation matrix from Choleski decomposition :

#	0	1	2	3	4	5	6	7
0	-1.0							
1	-2.7379484	1.0						
2	-0.58195037	1.8944004	1.0					
3	-2.623144	0.86356336	11.093933	-1.0				
4	-3.6574423	0.17640617	1.4654853	-1.1007534	-1.0			
5	0.27840868	3.0100083	0.6166852	-1.6003472	-2.56908	1.0		
6	-1.9371381	1.1806421	1.159257	0.97736293	0.60518795	-2.3171697	1.0	
7	0.31172383	-2.4336932	-0.983239	-3.4154925	-2.5617738	1.2808795	-2594.0	

Analysis title: Put a title here

Refined parameters:

0 paramete.sav:SB-G65-After:layer1:Volume fraction of Fe4.00 value:0.09879181 error:0.008199

1 paramete.sav:SB-G65-After:layer1:Volume fraction of ferrite value:0.79759556 error:0.05752636

2 paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol0 value:120.63882 error:0.5

3 paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol1 value:-2.6130648 error:0.

4 paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_B_iso_or_equiv value:-1

5 paramete.sav:SB-G65-After:Austenite:_cell_length_a value:3.6190095 error:7.486679E-4

6 paramete.sav:SB-G65-After:Austenite:Isotropic:_riet_par_cryst_size value:238.97253 error:28.9

7 paramete.sav:SB-G65-After:Austenite:Isotropic:_riet_par_rs_microstrain value:0.0040923166 er

Refinement final output indices:
Global Rwp: 0.21008857
Global Rp: 0.13301754
Global Rwpb (no background): 8.265378
Global Rpb (no background): 0.14447562
Total Energy: 0.0

Refinement final output indices for single samples:

Sample SB-G65-After :
Sample Rwp: 0.21008857
Sample Rp: 0.13301754
Sample Rwpb (no background): 8.265378
Sample Rpb (no background): 0.14447562

Refinement final output indices for single datasets:

DataSet SB-G65-after :
DataSet Rwp: 0.21008857
DataSet Rp: 0.13301754
DataSet Rwpb (no background): 8.265378
DataSet Rpb (no background): 0.14447562

Refinement final output indices for single spectra:

Datafile SB-G65.xrdml(0) : Rwp: 0.21008857, Rp: 0.13301754, Rwpb: 8.265378, Rpb: 0.14447562

Sample:SB-G65-After

Phases:

Martensite

Density: 7.56187773695375

Qc: 0.054616509880306766

Austenite

Density: 7.826003915737813

Qc: 0.05556216362404908

Ferrite

Density: 7.787271858628547

Qc: 0.05542450037886537

Object tree full informations

Object: paramete.sav

String informations (CIF term, value) :

_audit_creation_date, Mon Oct 12 15:11:53 PDT 1998

_audit_creation_method, Maud, version 2.33

_audit_update_record, Last update Thu May 09 09:25:58 BST 2013

_computing_structure_refinement, Maud, version 2.33

_refine_ls_R_factor_all, 0.13301754

_refine_ls_wR_factor_all, 0.21008857
_refine_ls_goodness_of_fit_all, 0.10676198
_publ_contact_author_name, Luca Lutterotti
_publ_section_title, Put a title here
_pd_proc_ls_extract_int, end of iteration
_pd_proc_ls_texture_comp, end of iteration
_computing_reduce_memory_occ, true
_pd_proc_ls_theoretical_weight, false
_pd_proc_ls_extract_pos, end of iteration
_pd_proc_ls_strain_comp, end of iteration
_pd_proc_ls_extract_Fhkl, end of iteration
_pd_proc_ls_Fhkl_comp, end of iteration
_pd_proc_ls_weight_scheme, sqrt
_refine_ls_weighting_scheme, WgtSS
_refine_ls_WSS_factor, 18312.217
_maud_store_spectra_with_analysis, false
_riet_remove_phases_under, 0.001
_riet_refine_cell_over, 0.1
_riet_refine_sizestrain_over, 0.1
_riet_refine_crystal_structure_over, 0.1
_riet_refine_texture_over, 0.15
_riet_refine_strain_over, 0.25
_pd_proc_ls_interpolation_comp, end of iteration

Subordinate objects :

Subordinate object number 0 :

Object: Marquadt Least Squares

String informations (CIF term, value) :

_refine_ls_number_iteration, 5
_riet_refine_ls_precision, 0.00000001
_riet_refine_ls_derivative_step, 0.0001
_riet_refine_ls_double_derivative, false

Loops of subordinate objects :

Object loop number 0 :

Object number 0 :

Object: SB-G65-After

String informations (CIF term, value) :

_pd_spec_description, Sample description
_riet_thin_film_phase_refinement, films

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:_pd_spec_orientation_omega Value: 0, minimum: 0.0, r

- Parameter: paramete.sav:SB-G65-After:_pd_spec_orientation_chi Value: 0, minimum: 0.0, maximum: 180.0
- Parameter: paramete.sav:SB-G65-After:_pd_spec_orientation_phi Value: 0, minimum: 0.0, maximum: 360.0
- Parameter: paramete.sav:SB-G65-After:_riet_par_spec_displac_x Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_riet_par_spec_displac_y Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_riet_par_spec_displac_z Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_pd_spec_size_axial Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_pd_spec_size_equat Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_pd_spec_size_thick Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_pd_spec_size_radius Value: 0, minimum: 0.0, maximum: 10.0
- Parameter: paramete.sav:SB-G65-After:_pd_spec_size_radius_y Value: 0, minimum: 0.0, maximum: 10.0

Subordinate objects :

Subordinate object number 0 :

Object: flat_sheet

Subordinate object number 1 :

Object: None Layer workout

Subordinate object number 2 :

Object: No precession

Loops of subordinate objects :

Object loop number 0 :

Object number 0 :

Object: layer1

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:layer1:_riet_par_spec_layer_thickness Value: 1.0E7, minimum: 1.0E7, maximum: 1.0E7
- Parameter: paramete.sav:SB-G65-After:layer1:_reflectivity_layer_critical_qc Value: 0.04, minimum: 0.04, maximum: 0.04
- Parameter: paramete.sav:SB-G65-After:layer1:_reflectivity_layer_absorption Value: 2.0E-7, minimum: 2.0E-7, maximum: 2.0E-7
- Parameter: paramete.sav:SB-G65-After:layer1:_reflectivity_layer_roughness Value: 2.0, minimum: 2.0, maximum: 2.0

Parameter loop informations :

Parameter loop number : 0

- Parameter: paramete.sav:SB-G65-After:layer1:Volume fraction of Fe2.00 Value: 0.10361261, minimum: 0.10361261, maximum: 0.10361261
- Parameter: paramete.sav:SB-G65-After:layer1:Volume fraction of Fe4.00 Value: 0.09879181, minimum: 0.09879181, maximum: 0.09879181
- Parameter: paramete.sav:SB-G65-After:layer1:Volume fraction of ferrite Value: 0.79759556, minimum: 0.79759556, maximum: 0.79759556

Object loop number 1 :

Object number 0 :

Object: SB-G65-after

String informations (CIF term, value) :

_pd_meas_datetime_initiated, Date/time meas
_pd_meas_info_author_name,
_riet_meas_datafile_format,
_pd_proc_ls_background_function,
_pd_proc_ls_profile_function,
_pd_proc_ls_peak_cutoff, 30
_pd_proc_2theta_range_min, 0
_pd_proc_2theta_range_max, 0
_pd_proc_2theta_range_inc,
_diffrn_ambient_pressure,
_diffrn_ambient_temperature,
_riet_lorentz_restricted, true
_riet_par_background_interpolated, false
_riet_par_background_interpolation_range, 10
_riet_meas_dataset_compute, true
_riet_meas_datafile_replace, false
_riet_meas_dataset_random_texture, false

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_exp_shift Value: 0
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_exp_thermal_shift
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_pd_spec_orientation_omega Value: 0, min
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_pd_spec_orientation_chi Value: 0, min
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_pd_spec_orientation_phi Value: 0, min

Parameter loop informations :

Parameter loop number : 0

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol0 Value: 120.6
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol1 Value: -2.613
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol2 Value: 0.032
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol3 Value: -2.078
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:_riet_par_background_pol4 Value: 5.602

Subordinate objects :

Subordinate object number 0 :

Object: Le Bail

String informations (CIF term, value) :

_riet_lebail_iteration_max, 5
_riet_lebail_error_max, 0.0050
_riet_lebail_range_factor, 0.05
_riet_lebail_use_bkg, true
_riet_lebail_use_hkl, true

_riet_lebail_summation_delta, 1.0E-4

Subordinate object number 1 :

Object: none pe

Subordinate object number 2 :

Object: none reflectivity

Subordinate object number 3 :

Object: Diffraction Instrument

String informations (CIF term, value) :

_diffrn_measurement_device_type, Diffraction Instrument

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:_pd_proc_intensity_

Parameter loop informations :

Parameter loop number : 0

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:_riet_par_2-theta_o

Subordinate objects :

Subordinate object number 0 :

Object: none cal

Subordinate object number 1 :

Object: Instrument disalignment

Subordinate object number 2 :

Object: Bragg-Brentano

String informations (CIF term, value) :

_diffrn_radiation_monochromator, Filtered

_pd_instr_2theta_monochr_post, 0

_pd_instr_dist_src/samp, 175.0

_pd_instr_monochr_pre_spec, none

_pd_instr_2theta_monochr_pre, 0

_pd_instr_divg_ax_src/samp, 0.0

_pd_instr_divg_slit_auto, false

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Bragg-Brentano:_di
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Bragg-Brentano:_di

Subordinate object number 3 :

Object: Theta-2Theta

Subordinate object number 4 :

Object: X-ray tube

Subordinate object number 5 :

Object: Scintillation

Subordinate object number 6 :

Object: Caglioti PV

String informations (CIF term, value) :

_riet_caglioti_d_dep, true
 _riet_asymmetry_tan_dep, false
 _riet_omega/chi_broadening_convolved, false
 _riet_par_asymmetry_truncation, 0.4

Parameter loop informations :

Parameter loop number : 0

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa

Parameter loop number : 1

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa

Parameter loop number : 2

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:Diffraction Instrument:Caglioti PV:_riet_pa

Subordinate object number 7 :

Object: none abs

Loops of subordinate objects :

Subordinate object number 4 :

Object: none fluorescence

Loops of subordinate objects :

Object loop number 2 :

Object number 0 :

Object: SB-G65.xrdml(0)

String informations (CIF term, value) :

_riet_meas_datafile_format,
_pd_meas_orientation_omega, 0.0
_pd_meas_orientation_chi, 0.0
_pd_meas_orientation_phi, 0.0
_pd_meas_orientation_eta, 0.0
_riet_meas_datafile_compute, true
_riet_meas_datafile_fitting, false
_pd_meas_detector_id, none
_pd_meas_step_count_time, 10.00
_pd_meas_units_of_intensity, counts
_riet_meas_datafile_as_background, false
_riet_meas_data_group_count, 1
_riet_datafile_type, 0
_riet_datafile_save_custom,
_pd_meas_image_id, -1
_riet_background_interpolated_manual, false

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:SB-G65-after:SB-G65.xrdml(0):_pd_meas_counts_moni
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:SB-G65.xrdml(0):_riet_par_spec_displac
- Parameter: paramete.sav:SB-G65-After:SB-G65-after:SB-G65.xrdml(0):_riet_par_spec_displac

Parameter loop informations :

Object loop number 2 :

Object number 0 :

Object: Martensite

General position

- 1) +x | +y | +z
- 2) +y | -x | -z
- 3) -x | -y | +z
- 4) -y | +x | -z

- 5) +x+0.5 | +y+0.5 | +z+0.5
- 6) +y+0.5 | -x+0.5 | -z+0.5
- 7) -x+0.5 | -y+0.5 | +z+0.5
- 8) -y+0.5 | +x+0.5 | -z+0.5

Atom list

n label symbol quantity occupancy x y z multiplicity B radius weigth neutron scattering neu

1) Fe Fe 2.0 1.0 0 0 0 2 -1.1149117 1.27 55.847

Atomic #, atom #, isotope #, weight, radius, symbol for tables: 26, 54, 80, 55.847, 1.27, Fe

Neutron sf: 9.45

Magnetic sf: 0.0706 35.0085 0.3589 15.3583 0.5819 5.5606 -0.0114

Electron sf: 0.1929 0.8239 1.8689 2.3694 1.906 0.1087 1.0806 4.7637 22.85

Neutron abs: 0.525525525525254

Electron abs: 0.0

X-ray sf: 0.493002 0.322912 0.140191 0.04081 10.5109 26.1257 3.14236 57.7997 0.003038 0.48

X-ray disp and abs: 0.0 0.0 0.0 0.0 0.002 0.002 0.008 0.008 0.018 0.035 0.0 0.059 0.09 0.09 0.09

Reflection list

n h k l multiplicity meanFhkl crystallite(Angstrom) microstrain

1) 1 1 0 4 5446.462153690649 184.77011 0.004382993

2) 1 0 1 8 10871.662698426388 184.77011 0.004382993

3) 2 0 0 4 4138.590050693494 184.77011 0.004382993

4) 0 0 2 2 2058.3448697657027 184.77011 0.004382993

5) 1 2 1 8 6820.043884326234 184.77011 0.004382993

6) 2 1 1 8 6820.043884326234 184.77011 0.004382993

7) 1 1 2 8 6800.837803824398 184.77011 0.004382993

8) 2 2 0 4 2979.3107731533296 184.77011 0.004382993

9) 2 0 2 8 5943.007063765376 184.77011 0.004382993

10) 1 3 0 4 2715.4924334862403 184.77011 0.004382993

11) 3 1 0 4 2715.4924334862403 184.77011 0.004382993

12) 3 0 1 8 5428.631076516575 184.77011 0.004382993

13) 1 0 3 8 5410.066816404758 184.77011 0.004382993

14) 2 2 2 8 5119.934387965842 184.77011 0.004382993

15) 2 3 1 8 4976.54557439149 184.77011 0.004382993

16) 3 2 1 8 4976.54557439149 184.77011 0.004382993

17) 1 3 2 8 4975.1237090022605 184.77011 0.004382993

18) 3 1 2 8 4975.1237090022605 184.77011 0.004382993

19) 1 2 3 8 4972.835567033542 184.77011 0.004382993

20) 2 1 3 8 4972.835567033542 184.77011 0.004382993

21) 4 0 0 4 2475.0848261170077 184.77011 0.004382993

22) 0 0 4 2 1238.243919268576 184.77011 0.004382993

String informations (CIF term, value) :

_chemical_name_common, Martensite

_chemical_formula_sum, Phase unknown

_symmetry_cell_setting, tetragonal

_symmetry_Int_Tables_number, 82

_symmetry_space_group_name_sch, 1

_symmetry_space_group_name_H-M, I-4
_symmetry_space_group_name_Hall, P1
_cell_formula_units_Z, 1
_refine_ls_d_res_low, 0
_refine_ls_d_res_high, 5000
_reflns_d_resolution_low, 0.7
_reflns_d_resolution_high, 50

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Martensite:_cell_length_a Value: 2.9111097, minimum:
- Parameter: paramete.sav:SB-G65-After:Martensite:_cell_length_b Value: 2.9111097, minimum:
- Parameter: paramete.sav:SB-G65-After:Martensite:_cell_length_c Value: 2.894226, minimum: 5
- Parameter: paramete.sav:SB-G65-After:Martensite:_cell_angle_alpha Value: 90, minimum: 90.0
- Parameter: paramete.sav:SB-G65-After:Martensite:_cell_angle_beta Value: 90, minimum: 90.0,
- Parameter: paramete.sav:SB-G65-After:Martensite:_cell_angle_gamma Value: 90, minimum: 90
- Parameter: paramete.sav:SB-G65-After:Martensite:_riet_par_strain_thermal Value: 0, minimum:
- Parameter: paramete.sav:SB-G65-After:Martensite:_exptl_absorpt_cryst_size Value: 0, minimum:
- Parameter: paramete.sav:SB-G65-After:Martensite:_riet_par_phase_scale_factor Value: 1.0, mi

Subordinate objects :

Subordinate object number 0 :

Object: none tex

Subordinate object number 1 :

Object: Delf

Subordinate object number 2 :

Object: Isotropic

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Martensite:Isotropic:_riet_par_cryst_size Value: 184.77
- Parameter: paramete.sav:SB-G65-After:Martensite:Isotropic:_riet_par_rs_microstrain Value: 0.0

Subordinate object number 3 :

Object: none abm

Subordinate object number 4 :

Object: none pd

Subordinate object number 5 :

Object: no magnetic

Subordinate object number 6 :

Object: no strain

Subordinate object number 7 :

Object: No microabsorption

Subordinate object number 8 :

Object: Atomic Structure

String informations (CIF term, value) :

_riet_structure_quantity_from_occupancy, true
_refine_ls_energy_weight, 1.0

Subordinate objects :

Subordinate object number 0 :

Object: Genetic Algorithm SDPD

String informations (CIF term, value) :

_riet_ga_population_size, 500
_riet_ga_generations_number, 20
_riet_ga_mutation_prob, 0.01
_riet_ga_permutation_prob, 0.01

Subordinate object number 1 :

Object: No force field

Loops of subordinate objects :

Object loop number 0 :

Object number 0 :

Object: Fe

String informations (CIF term, value) :

_atom_site_type_symbol, Fe
_atom_site_constraints,
_atom_type_number_in_cell, 2.0
_atom_site_calc_flag, d

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_occupancy
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_fract_x Valu
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_fract_y Valu

- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_fract_z Value
 - Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_B_iso_or_equiv
- Parameters bounded to this parameter:
- paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_B_iso_or_equiv

- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_aniso_B_11
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_aniso_B_22
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_aniso_B_33
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_aniso_B_23
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_aniso_B_13
- Parameter: paramete.sav:SB-G65-After:Martensite:Atomic Structure:Fe:_atom_site_aniso_B_12

Subordinate object number 9 :

Object: atomic standard model

Subordinate object number 10 :

Object: Le Bail

String informations (CIF term, value) :

_riet_lebail_iteration_max, 5
 _riet_lebail_error_max, 0.005
 _riet_lebail_range_factor, 0.05
 _riet_lebail_use_bkg, true
 _riet_lebail_summation_delta, 1.0E-4
 _riet_lebail_use_previous_factors, true

Subordinate object number 11 :

Object: Genetic Algorithm SDPD

String informations (CIF term, value) :

_riet_ga_population_size, 500
 _riet_ga_generations_number, 20
 _riet_ga_mutation_prob, 0.01
 _riet_ga_permutation_prob, 0.01

Subordinate object number 12 :

Object: None TDS

Loops of subordinate objects :

Object number 1 :

Object: Austenite

General position

- 1) $+x \mid +y \mid +z$
- 2) $-y \mid +x \mid +z$
- 3) $-x \mid -y \mid +z$
- 4) $+y \mid -x \mid +z$
- 5) $+x \mid -z \mid +y$
- 6) $+x \mid -y \mid -z$
- 7) $+x \mid +z \mid -y$
- 8) $+z \mid +y \mid -x$
- 9) $-x \mid +y \mid -z$
- 10) $-z \mid +y \mid +x$
- 11) $+z \mid +x \mid +y$
- 12) $+y \mid +z \mid +x$
- 13) $-y \mid -z \mid +x$
- 14) $+z \mid -x \mid -y$
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- 32) $-z \mid -y \mid +x$
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- 34) $+z \mid -y \mid -x$
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- 39) $+y \mid -z \mid +x$
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- 41) $+z \mid -x \mid +y$
- 42) $-y \mid +z \mid +x$
- 43) $-y \mid -x \mid +z$
- 44) $+y \mid +x \mid +z$

- 45) $+x \mid -z \mid -y$
- 46) $+x \mid +z \mid +y$
- 47) $-z \mid +y \mid -x$
- 48) $+z \mid +y \mid +x$
- 49) $+x \mid +y+0.5 \mid +z+0.5$
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189) +x+0.5 | -z+0.5 | -y
 190) +x+0.5 | +z+0.5 | +y
 191) -z+0.5 | +y+0.5 | -x
 192) +z+0.5 | +y+0.5 | +x

Atom list

n label symbol quantity occupancy x y z multiplicity B radius weight neutron scattering neu
 1) Fe Fe 4.0 1.0 0 0 0 4 -1.1149117 1.27 55.847

Atomic #, atom #, isotope #, weight, radius, symbol for tables: 26, 54, 80, 55.847, 1.27, Fe
 Neutron sf: 9.45

Magnetic sf: 0.0706 35.0085 0.3589 15.3583 0.5819 5.5606 -0.0114

Electron sf: 0.1929 0.8239 1.8689 2.3694 1.906 0.1087 1.0806 4.7637 22.85

Neutron abs: 0.525525525525254

Electron abs: 0.0

X-ray sf: 0.493002 0.322912 0.140191 0.04081 10.5109 26.1257 3.14236 57.7997 0.003038 0.48

X-ray disp and abs: 0.0 0.0 0.0 0.0 0.002 0.002 0.008 0.008 0.018 0.035 0.0 0.059 0.09 0.09 0.09

Reflection list

n h k l multiplicity meanFhkl crystallite(Angstrom) microstrain

1) 1 1 1 8 44005.824810054335 238.97253 0.0040923166
 2) 2 0 0 6 29805.267250901954 238.97253 0.0040923166
 3) 2 2 0 12 43992.6060332299 238.97253 0.0040923166
 4) 3 1 1 24 75472.13320270243 238.97253 0.0040923166
 5) 2 2 2 8 24159.775315802337 238.97253 0.0040923166
 6) 4 0 0 6 16089.648358095024 238.97253 0.0040923166
 7) 3 3 1 24 61133.61364889287 238.97253 0.0040923166
 8) 4 2 0 24 60460.81843544704 238.97253 0.0040923166
 9) 4 2 2 24 59363.33003543833 238.97253 0.0040923166

String informations (CIF term, value) :

_chemical_name_common, Austenite

_chemical_formula_sum, Phase unknown

_symmetry_cell_setting, cubic

_symmetry_Int_Tables_number, 225

_symmetry_space_group_name_sch, 1

_symmetry_space_group_name_H-M, Fm-3m

_symmetry_space_group_name_Hall, P1

_cell_formula_units_Z, 1

_refine_ls_d_res_low, 0

_refine_ls_d_res_high, 5000

_reflns_d_resolution_low, 0.7

_reflns_d_resolution_high, 50

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Austenite:_cell_length_a Value: 3.6190095, minimum: 5
 - Parameter: paramete.sav:SB-G65-After:Austenite:_cell_length_b Value: 3.6190095, minimum: 5
 - Parameter: paramete.sav:SB-G65-After:Austenite:_cell_length_c Value: 3.6190095, minimum: 5
 - Parameter: paramete.sav:SB-G65-After:Austenite:_cell_angle_alpha Value: 90, minimum: 90.0,

- Parameter: paramete.sav:SB-G65-After:Austenite:_cell_angle_beta Value: 90, minimum: 90.0, maximum: 90.0
- Parameter: paramete.sav:SB-G65-After:Austenite:_cell_angle_gamma Value: 90, minimum: 90.0, maximum: 90.0
- Parameter: paramete.sav:SB-G65-After:Austenite:_riet_par_strain_thermal Value: 0, minimum: 0.0, maximum: 0.0
- Parameter: paramete.sav:SB-G65-After:Austenite:_exptl_absorpt_cryst_size Value: 0.3012927, minimum: 0.0, maximum: 0.3012927
- Parameter: paramete.sav:SB-G65-After:Austenite:_riet_par_phase_scale_factor Value: 0.90749, minimum: 0.0, maximum: 0.90749

Subordinate objects :

Subordinate object number 0 :

Object: none tex

Subordinate object number 1 :

Object: Delf

Subordinate object number 2 :

Object: Isotropic

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Austenite:Isotropic:_riet_par_cryst_size Value: 238.972, minimum: 0.0, maximum: 238.972
- Parameter: paramete.sav:SB-G65-After:Austenite:Isotropic:_riet_par_rs_microstrain Value: 0.000, minimum: 0.000, maximum: 0.000

Subordinate object number 3 :

Object: none abm

Subordinate object number 4 :

Object: none pd

Subordinate object number 5 :

Object: no magnetic

Subordinate object number 6 :

Object: no strain

Subordinate object number 7 :

Object: No microabsorption

Subordinate object number 8 :

Object: Atomic Structure

String informations (CIF term, value) :

_riet_structure_quantity_from_occupancy, true
_refine_ls_energy_weight, 1.0

Subordinate objects :

Subordinate object number 0 :

Object: Genetic Algorithm SDPD

String informations (CIF term, value) :

_riet_ga_population_size, 500
_riet_ga_generations_number, 20
_riet_ga_mutation_prob, 0.01
_riet_ga_permutation_prob, 0.01

Subordinate object number 1 :

Object: No force field

Loops of subordinate objects :

Object loop number 0 :

Object number 0 :

Object: Fe

String informations (CIF term, value) :

_atom_site_type_symbol, Fe
_atom_site_constraints,
_atom_type_number_in_cell, 4.0
_atom_site_calc_flag, .

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_occupancy Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_fract_x Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_fract_y Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_fract_z Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_B_iso_or_eq Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_aniso_B_11 Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_aniso_B_22 Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_aniso_B_33 Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_aniso_B_23 Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_aniso_B_13 Value
- Parameter: paramete.sav:SB-G65-After:Austenite:Atomic Structure:Fe:_atom_site_aniso_B_12 Value

Subordinate object number 9 :

Object: atomic standard model

Subordinate object number 10 :

Object: Le Bail

String informations (CIF term, value) :

_riet_lebail_iteration_max, 5
_riet_lebail_error_max, 0.005
_riet_lebail_range_factor, 0.05
_riet_lebail_use_bkg, true
_riet_lebail_summation_delta, 1.0E-4
_riet_lebail_use_previous_factors, true

Subordinate object number 11 :

Object: Genetic Algorithm SDPD

String informations (CIF term, value) :

_riet_ga_population_size, 500
_riet_ga_generations_number, 20
_riet_ga_mutation_prob, 0.01
_riet_ga_permutation_prob, 0.01

Subordinate object number 12 :

Object: None TDS

Loops of subordinate objects :

Object number 2 :

Object: Ferrite

General position

- 1) +x | +y | +z
- 2) -y | +x | +z
- 3) -x | -y | +z
- 4) +y | -x | +z
- 5) +x | -z | +y
- 6) +x | -y | -z
- 7) +x | +z | -y
- 8) +z | +y | -x
- 9) -x | +y | -z
- 10) -z | +y | +x
- 11) +z | +x | +y
- 12) +y | +z | +x

- 13) $-y \mid -z \mid +x$
- 14) $+z \mid -x \mid -y$
- 15) $-y \mid +z \mid -x$
- 16) $-z \mid -x \mid +y$
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 91) $-y+0.5 \mid -x+0.5 \mid +z+0.5$
 92) $+y+0.5 \mid +x+0.5 \mid +z+0.5$
 93) $+x+0.5 \mid -z+0.5 \mid -y+0.5$
 94) $+x+0.5 \mid +z+0.5 \mid +y+0.5$
 95) $-z+0.5 \mid +y+0.5 \mid -x+0.5$
 96) $+z+0.5 \mid +y+0.5 \mid +x+0.5$

Atom list

n label symbol quantity occupancy x y z multiplicity B radius weigth neutron scattering neu
 1) Fe Fe 2.0 1.0 0 0 0 2 -0.325792 1.27 55.847

Atomic #, atom #, isotope #, weight, radius, symbol for tables: 26, 54, 80, 55.847, 1.27, Fe
 Neutron sf: 9.45

Magnetic sf: 0.0706 35.0085 0.3589 15.3583 0.5819 5.5606 -0.0114

Electron sf: 0.1929 0.8239 1.8689 2.3694 1.906 0.1087 1.0806 4.7637 22.85

Neutron abs: 0.5255255255255254

Electron abs: 0.0

X-ray sf: 0.493002 0.322912 0.140191 0.04081 10.5109 26.1257 3.14236 57.7997 0.003038 0.48

X-ray disp and abs: 0.0 0.0 0.0 0.0 0.002 0.002 0.008 0.008 0.018 0.035 0.0 0.059 0.09 0.09 0.09

Reflection list

n h k l multiplicity meanFhkl crystallite(Angstrom) microstrain

- 1) 1 1 0 12 14736.987128626875 271.06784 0.0032012293
- 2) 2 0 0 6 5075.621924052633 271.06784 0.0032012293
- 3) 2 1 1 24 15211.994325836982 271.06784 0.0032012293
- 4) 2 2 0 12 6040.563490949909 271.06784 0.0032012293
- 5) 3 1 0 24 10029.555501895156 271.06784 0.0032012293
- 6) 2 2 2 8 2875.9198673229057 271.06784 0.0032012293
- 7) 3 2 1 48 15284.965154345537 271.06784 0.0032012293
- 8) 4 0 0 6 1734.041860543989 271.06784 0.0032012293

String informations (CIF term, value) :

_chemical_name_common, Ferrite
_chemical_formula_sum,
_symmetry_cell_setting, cubic
_symmetry_Int_Tables_number, 229
_symmetry_space_group_name_sch, 1
_symmetry_space_group_name_H-M, Im-3m
_symmetry_space_group_name_Hall, P1
_cell_formula_units_Z, 1
_refine_ls_d_res_low, 0
_refine_ls_d_res_high, 5000
_reflns_d_resolution_low, 0.7
_reflns_d_resolution_high, 50

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Ferrite:_cell_length_a Value: 2.8771641, minimum: 5.0,
- Parameter: paramete.sav:SB-G65-After:Ferrite:_cell_length_b Value: 2.8771641, minimum: 5.0,
- Parameter: paramete.sav:SB-G65-After:Ferrite:_cell_length_c Value: 2.8771641, minimum: 5.0,
- Parameter: paramete.sav:SB-G65-After:Ferrite:_cell_angle_alpha Value: 90, minimum: 90.0, ma
- Parameter: paramete.sav:SB-G65-After:Ferrite:_cell_angle_beta Value: 90, minimum: 90.0, ma
- Parameter: paramete.sav:SB-G65-After:Ferrite:_cell_angle_gamma Value: 90, minimum: 90.0, r
- Parameter: paramete.sav:SB-G65-After:Ferrite:_riet_par_strain_thermal Value: 0, minimum: -0.
- Parameter: paramete.sav:SB-G65-After:Ferrite:_exptl_absorpt_cryst_size Value: 0, minimum: 0
- Parameter: paramete.sav:SB-G65-After:Ferrite:_riet_par_phase_scale_factor Value: 1.0, minim

Subordinate objects :

Subordinate object number 0 :

Object: none tex

Subordinate object number 1 :

Object: Delf

Subordinate object number 2 :

Object: Isotropic

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Ferrite:Isotropic:_riet_par_cryst_size Value: 271.06784
- Parameter: paramete.sav:SB-G65-After:Ferrite:Isotropic:_riet_par_rs_microstrain Value: 0.0032

Subordinate object number 3 :

Object: none abm

Subordinate object number 4 :

Object: none pd

Subordinate object number 5 :

Object: no magnetic

Subordinate object number 6 :

Object: no strain

Subordinate object number 7 :

Object: No microabsorption

Subordinate object number 8 :

Object: Atomic Structure

String informations (CIF term, value) :

_riet_structure_quantity_from_occupancy, true
_refine_ls_energy_weight, 1.0

Subordinate objects :

Subordinate object number 0 :

Object: Genetic Algorithm SDPD

String informations (CIF term, value) :

_riet_ga_population_size, 500
_riet_ga_generations_number, 20
_riet_ga_mutation_prob, 0.01
_riet_ga_permutation_prob, 0.01

Subordinate object number 1 :

Object: No force field

Loops of subordinate objects :

Object loop number 0 :

Object number 0 :

Object: Fe

String informations (CIF term, value) :

_atom_site_type_symbol, Fe

_atom_site_constraints,

_atom_type_number_in_cell, 2.0

_atom_site_calc_flag, .

Parameter informations :

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_occupancy Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_fract_x Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_fract_y Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_fract_z Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_B_iso_or_equiv Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_aniso_B_11 Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_aniso_B_22 Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_aniso_B_33 Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_aniso_B_23 Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_aniso_B_13 Value: 0

- Parameter: paramete.sav:SB-G65-After:Ferrite:Atomic Structure:Fe:_atom_site_aniso_B_12 Value: 0

Subordinate object number 9 :

Object: atomic standard model

Subordinate object number 10 :

Object: Le Bail

String informations (CIF term, value) :

_riet_lebail_iteration_max, 5

_riet_lebail_error_max, 0.005

_riet_lebail_range_factor, 0.05

_riet_lebail_use_bkg, true

_riet_lebail_summation_delta, 1.0E-4

_riet_lebail_use_previous_factors, true

Subordinate object number 11 :

Object: Genetic Algorithm SDPD

String informations (CIF term, value) :

_riet_ga_population_size, 500

_riet_ga_generations_number, 20

_riet_ga_mutation_prob, 0.01

_riet_ga_permutation_prob, 0.01

Subordinate object number 12 :

Object: None TDS

Loops of subordinate objects :