

Tables:

Tab. 1. Full alloy composition and their labels used in the text.

Alloy	Label
$\text{LaFe}_{11.2}\text{Co}_{0.7}\text{Si}_{1.1}$	S1
$\text{La}_{0.9}\text{Ce}_{0.1}\text{Fe}_{11.2}\text{Co}_{0.7}\text{Si}_{1.1}$	S2
$\text{La}_{0.9}\text{Ho}_{0.1}\text{Fe}_{11.2}\text{Co}_{0.7}\text{Si}_{1.1}$	S3
$\text{La}_{0.9}\text{Pr}_{0.1}\text{Fe}_{11.2}\text{Co}_{0.7}\text{Si}_{1.1}$	S4
$\text{LaFe}_{11.1}\text{Mn}_{0.1}\text{Co}_{0.7}\text{Si}_{1.1}$	S5
$\text{LaFe}_{11.0}\text{Mn}_{0.2}\text{Co}_{0.7}\text{Si}_{1.1}$	S6
$\text{LaFe}_{10.9}\text{Mn}_{0.3}\text{Co}_{0.7}\text{Si}_{1.1}$	S7

Tab. 2. The Curie temperature T_C , change of lattice constant Δa for the $\text{La}(\text{Fe},\text{Si})_{13}$ (and its relative change $\Delta a/a$) and α -Fe structures, temperature of transition T_x and its temperature range σ for all investigated samples.

Sample	$\text{La}(\text{Fe},\text{Si})_{13}$					α -Fe		
	T_C	T_x	σ	Δa	$\Delta a/a$	T_x	σ	Δa
	[K]	[K]	[K]	$[\times 10^{-3}\text{\AA}]$	[%]	[K]	[K]	$[\times 10^{-5}\text{\AA}]$
S1	264	261.1(3)	9.6(5)	43(1)	0.44	263.4(4)	12.1(5)	12.1(3)
S2	254	251.5(2)	5.4(4)	48(1)	0.52	249.7(5)	4.5(7)	7.6(3)
S3	263	259.5(3)	10.1(5)	42(1)	0.42	257.0(4)	8.8(6)	7.3(2)
S4	259	258.8(3)	10.5(5)	42(1)	0.42	257.4(5)	6.8(8)	4.6(2)
S5	241	251.1(3)	9.7(5)	40(1)	0.43	247.1(9)	7.6(9)	6.2(4)
S6	222	239.6(3)	10.8(5)	37(1)	0.41	237.8(6)	10.2(9)	9.4(5)
S7	198	226.2(3)	10.6(5)	34(1)	0.40	222.4(9)	8.1(9)	3.9(5)