



## ERRATUM

# POST-IR IRSL DATING OF K-FELDSPAR FROM LAST INTERGLACIAL MARINE TERRACE DEPOSITS ON THE KAMIKITA COASTAL PLAIN, NORTHEASTERN JAPAN

KAZUMI ITO<sup>1</sup>, TORU TAMURA<sup>1</sup> and SUMIKO TSUKAMOTO<sup>2</sup>

<sup>1</sup>Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki, Japan

<sup>2</sup>Leibniz Institute for Applied Geophysics (LIAG), S3: Geochronology, Hannover, Germany

Erratum to:

**GEOCHRONOMETRIA 44 (2017): 352–365,**

POST-IR IRSL DATING OF K-FELDSPAR FROM LAST INTERGLACIAL MARINE TERRACE DEPOSITS ON THE KAMIKITA COASTAL PLAIN, NORTHEASTERN JAPAN

DOI 10.1515/geochr-2015-0077

The online version of the original article can be found at: <http://dx.doi.org/10.1515/geochr-2015-0077>

The original version of this article contained incorrect calculation of recombination centre density,  $\rho'$ , and therefore all  $\rho'$  and fading-corrected age were re-calculated. This erratum provides corrected **Table 3**, **Fig. 4**, **Fig. 6** and **Fig. 7**, as well as a list of corrections in the text.

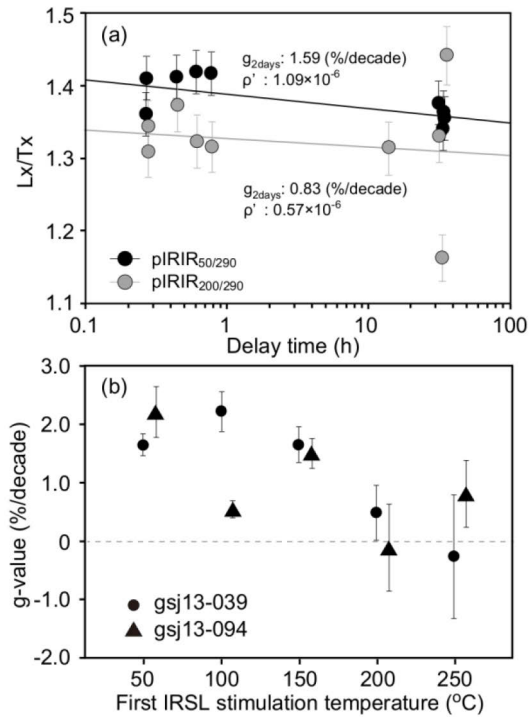
### LIST OF CORRECTIONS IN THE TEXT

Page	Section	Line	Before correction	After correction
352	Abstract	9		
361	Discussion	25	126 ± 3 ka	122 ± 3 ka
363	Conclusion	14		
361	Fading-corrected (residual-subtracted) age	25	$(2.12 \pm 0.26) \times 10^{-6}$ and $(0.34 \pm 0.75) \times 10^{-6}$ , respectively, for site 1 (gsj13-040, gsj13-039 and gsj14-030), and $(1.76 \pm 0.30) \times 10^{-6}$ and $(-0.02 \pm 0.79) \times 10^{-6}$ , respectively, for site 2 (gsj13-093, gsj13-094 and gsj13-095)	$(1.43 \pm 0.17) \times 10^{-6}$ and $(0.20 \pm 0.51) \times 10^{-6}$ , respectively, for site 1 (gsj13-040, gsj13-039 and gsj14-030), and $(1.17 \pm 0.19) \times 10^{-6}$ and $(-0.13 \pm 0.62) \times 10^{-6}$ , respectively, for site 2 (gsj13-093, gsj13-094 and gsj13-095)

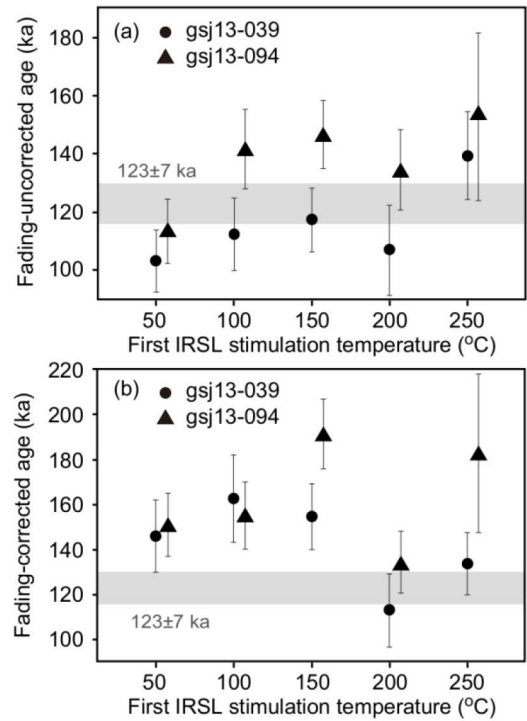
Corresponding author: K. Ito  
e-mail: [kazumi-itou@aist.go.jp](mailto:kazumi-itou@aist.go.jp)

**Table 3.** Results of pIRIR dating using different first IR stimulation temperatures. *n* is number of aliquots, *p*' is the dimensionless recombination centre density (Huntley, 2006). Residual dose was *D<sub>0</sub>* after artificial sunlight bleaching for 3 h except for modern beach sand (gsj14-019) which was bleached for 800 h. Fading correction was performed based on Kars et al. (2008) and Kars and Wallinga (2009). To calculate the uncorrected ages, residual dose of modern beach sand (gsj14-019) was subtracted from *D<sub>0</sub>* of each sample. *D<sub>0</sub>* values were calculated based on Wintle and Murray (2006).  
<sup>a</sup> Terrigenous sediments. <sup>b</sup> If the average *g*-value of samples from site 2 was lower than zero, fading correction would not performed.

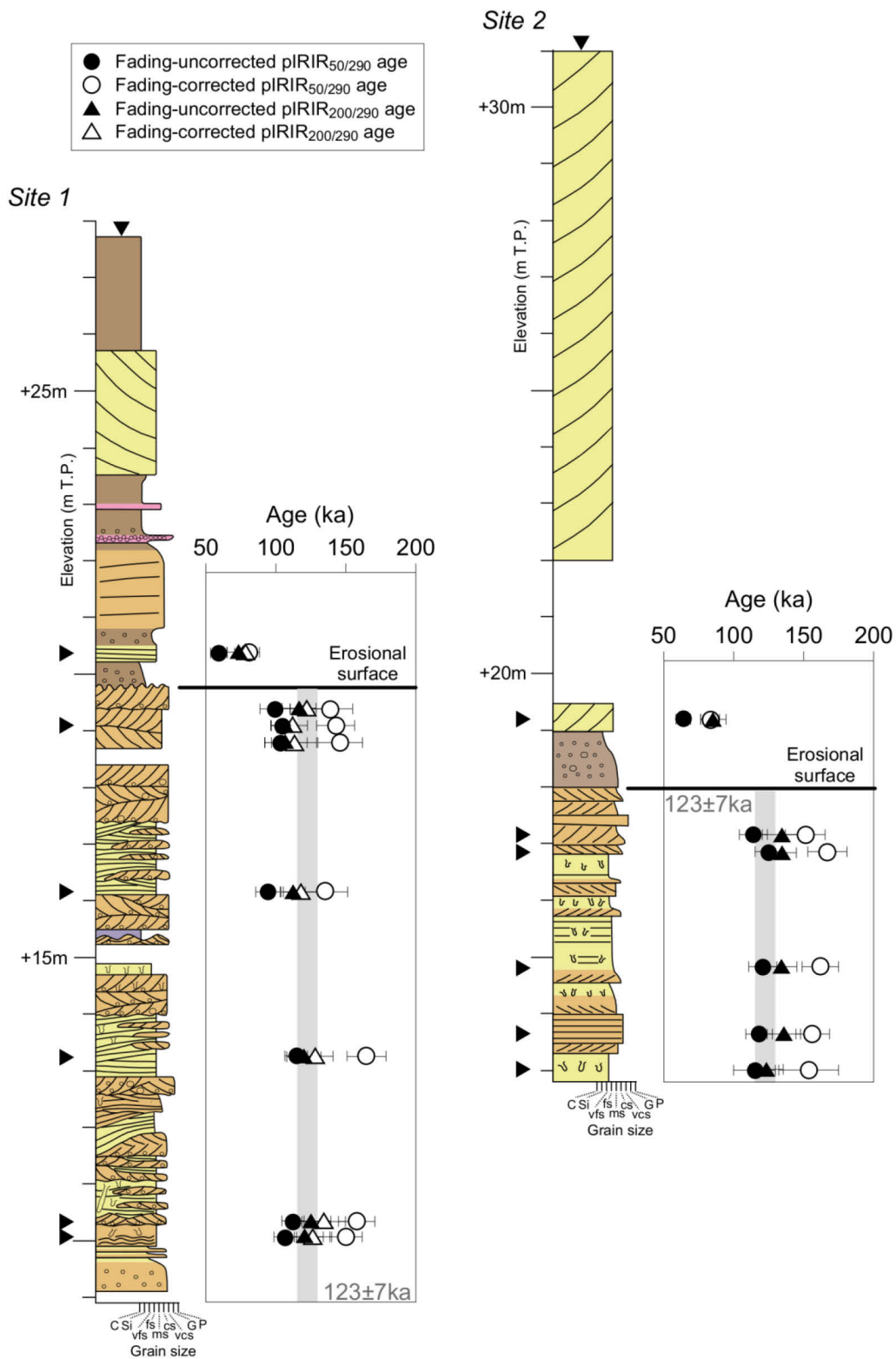
Sample	Measurement procedure		Fading test		Dose recovery test		Residual dose (Gy)	Fading-uncorrected Age (ka)	Fading-corrected Age <sup>b</sup> (ka)	D <sub>0</sub> (Gy)			
	<i>n</i>	<i>D<sub>0</sub></i> (Gy)	<i>n</i>	<i>g</i> <sub>days</sub> (%/decade)	<i>n</i>	<i>p</i> '/10 <sup>6</sup>					<i>n</i>	Dose recovery ratio	
<b>Site 1</b>													
gsj13-040 <sup>a</sup>	pIRIR <sub>50/290</sub>	11	96±4	11	2.19±0.09	1.48±0.06	3	0.93±0.09	3	10±1	59±5	81±7	361
	pIRIR <sub>200/290</sub>	17	120±6	7	-1.02±0.73	-0.72±0.51	3	1.07±0.09	3	12±6	74±7	78±7	251
gsj14-014	pIRIR <sub>50/290</sub>	8	163±12	8	1.63±0.12		3	1.16±0.05	3	15±1	99±11	139±16	413
	pIRIR <sub>200/290</sub>	11	192±10	11	1.92±1.0		3	1.20±0.10	3	25±1	116±10	122±11	324
gsj14-015	pIRIR <sub>50/290</sub>	8	178±10	8	1.78±1.0		3	1.06±0.03	3	12±0	105±10	143±14	724
	pIRIR <sub>200/290</sub>	12	181±10	12	1.81±1.0		3	0.81±0.05	3	22±1	106±10	112±11	392
gsj13-039	pIRIR <sub>50/290</sub>	28	176±12	28	1.65±0.18	1.11±0.12	10	1.03±0.10	6	15±0	103±10	146±16	422
	pIRIR <sub>100/290</sub>	12	191±15	12	2.22±0.34	1.48±0.22	9	1.10±0.12	6	18±2	112±12	162±19	424
	pIRIR <sub>150/290</sub>	10	200±11	12	1.65±0.31	1.10±0.21	9	1.06±0.12	6	23±2	118±11	154±15	451
	pIRIR <sub>200/290</sub>	19	183±22	20	0.49±0.46	0.30±0.32	12	1.02±0.11	12	27±2	107±15	113±16	370
gsj14-029	pIRIR <sub>250/290</sub>	10	229±17	10	-0.26±1.07	-0.27±0.76	6	1.08±0.40	6	28±7	134±14	127±14	248
	pIRIR <sub>50/290</sub>	7	163±10	7	1.63±1.0		3	1.06±0.05	3	13±1	94±9	132±13	410
gsj14-030	pIRIR <sub>200/290</sub>	9	194±14	9	1.94±1.4		3	1.01±0.07	3	25±1	112±12	118±13	298
	pIRIR <sub>50/290</sub>	8	204±8	8	2.53±0.31	1.69±0.21	3	1.04±0.05	3	15±0	116±9	164±14	448
gsj14-017	pIRIR <sub>200/290</sub>	13	214±15	12	1.57±0.40	1.03±0.26	3	0.94±0.17	3	31±1	120±12	128±13	258
	pIRIR <sub>50/290</sub>	8	184±7	8	1.84±7		3	1.04±0.05	3	16±1	113±9	158±13	514
gsj14-029	pIRIR <sub>50/290</sub>	8	183±7	8	1.83±7		3	1.02±0.07	3	31±1	125±14	131±15	446
	pIRIR <sub>200/290</sub>	10	206±17	10	2.06±17		3	0.96±0.04	3	14±1	107±9	150±12	453
<b>Site 2</b>													
gsj13-093 <sup>a</sup>	pIRIR <sub>50/290</sub>	10	95±3	10	1.25±0.66	0.82±0.45	3	1.09±0.05	3	11±0	64±5	82±7	371
	pIRIR <sub>200/290</sub>	16	127±6	8	-1.34±0.57	-1.21±0.49	3	1.13±0.10	3	21±2	86±8	114±10	229
gsj13-094	pIRIR <sub>50/290</sub>	17	163±8	11	2.21±0.42	1.48±0.27	3	1.16±0.07	3	19±1	114±10	150±14	461
	pIRIR <sub>100/290</sub>	6	203±12	6	0.55±0.14	0.37±0.09	3	1.11±0.05	3	18±1	142±13	155±15	420
	pIRIR <sub>150/290</sub>	6	210±6	6	1.50±0.23	1.00±0.15	3	0.98±0.09	3	20±1	147±12	191±15	364
	pIRIR <sub>200/290</sub>	24	193±14	12	-0.11±0.74	-0.11±0.50	3	1.02±0.07	3	31±1	134±14	134±14	324
gsj13-092	pIRIR <sub>250/290</sub>	6	221±34	4	0.81±0.57	0.53±0.39	3	0.65±0.07	3	38±3	154±27	182±35	253
	pIRIR <sub>50/290</sub>	7	205±8	7	2.05±8		3	1.08±0.06	3	17±0	126±10	166±14	507
gsj13-095	pIRIR <sub>200/290</sub>	8	193±8	8	1.82±0.12	1.23±0.08	3	1.02±0.07	3	31±1	134±10	161±13	287
	pIRIR <sub>50/290</sub>	16	214±9	12	1.40±0.22	0.94±0.15	3	1.16±0.07	3	12±0	121±10	161±13	450
gsj13-091	pIRIR <sub>50/290</sub>	8	178±4	8	1.78±4		3	0.97±0.06	3	28±1	134±11	155±12	338
	pIRIR <sub>200/290</sub>	11	205±9	11	2.05±9		3	1.07±0.06	3	16±1	118±9	155±12	532
gsj13-096	pIRIR <sub>50/290</sub>	8	187±20	8	1.87±20		3	1.13±0.12	3	32±2	136±12	136±12	312
	pIRIR <sub>200/290</sub>	12	202±13	12	2.02±13		3	1.06±0.06	3	11±1	115±15	153±21	442
<b>Site 3</b>													
gsj14-019	pIRIR <sub>50/290</sub>	13	16±2	13	16±2		3	1.15±0.06	3	27±1	123±12	123±12	339
	pIRIR <sub>100/290</sub>	8	14±2	8	14±2		3	3±0	3	3±0			
	pIRIR <sub>150/290</sub>	8	11±1	8	11±1		3	4±0	3	4±0			
	pIRIR <sub>200/290</sub>	15	17±1	15	17±1		3		3				
	pIRIR <sub>250/290</sub>	6	26±2	6	26±2		3		3				



**Fig. 4.** Fading test results. (a) Typical results for sample gsj13-039; (b) g-values obtained with different first IR stimulation temperatures for gsj13-039 and gsj13-094. The error bars show one standard error.



**Fig. 6.** (a) Uncorrected and (b) corrected pIRIR ages of gsj13-039 and gsj13-094 obtained with different first IR stimulation temperatures. The error bars show one standard error.



**Fig. 7.** Columnar sections as in Fig. 2. For sites 1 and 2, the fading-uncorrected and -corrected ages of the pIRIR<sub>50/290</sub> and pIRIR<sub>200/290</sub> signals are shown with one standard error. For site 2, the fading corrected ages of pIRIR<sub>200/290</sub> signals were not calculated because the average  $p'$  value was lower than zero. For each site, the vertical grey bar shows the expected age range.

## REFERENCES

- Huntley DJ, 2006. An explanation of the power-law decay of luminescence. *Journal of Physics: Condensed Matter* 18: 1359–1365, DOI [10.1088/0953-8984/18/4/020](https://doi.org/10.1088/0953-8984/18/4/020).
- Kars RH and Wallinga J, 2009. IRSL dating of K-feldspar: Modeling natural dose response curve to deal with anomalous fading and trap competition. *Radiation Measurements* 44: 594–599, DOI [10.1016/j.radmeas.2009.03.032](https://doi.org/10.1016/j.radmeas.2009.03.032).
- Kars RH, Wallinga J and Cohen KM, 2008. A new approach towards anomalous fading correction for feldspar IRSL dating – test on samples in field saturation. *Radiation Measurements* 43: 786–790, DOI [10.1016/j.radmeas.2008.01.021](https://doi.org/10.1016/j.radmeas.2008.01.021).
- Wintle AG and Murray AS, 2006. A reviews of quartz optically stimulated luminescence characteristics and their relevance in single-aliquot regeneration dating protocols. *Radiation Measurements* 41: 369–391, DOI [10.1016/j.radmeas.2005.11.001](https://doi.org/10.1016/j.radmeas.2005.11.001).