

Supplementary Information for:

**Tracing origins of uranium ore concentrates (UOCs) by
multidimensional statistics analysis of rare-earth impurities**

Mu Lin^{a,b}, Yonggang Zhao^{a,*}, Lifei Zhao^a, Lili Li^a, Fan Wang^a, Liuchao Zhu^a,
Xiaonan Hu^a and Wei Ning^a

^a Department of Radiochemistry, China Institute of Atomic Energy, Beijing, China

^b State Nuclear Power Research Institute, Beijing, China

* Corresponding author. Box 8, P.O. BOX 275, Beijing, China. Tel.: +86-10-69358448; Fax: +86-10-69357936. E-mail address: zhaoyg@ciae.ac.cn

Table.1. (Continued)

Country	Location	Deposit Name	Deposit Type	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Instrument	Reference		
Canada	Athabasca basin	McArthur River	Unconformity-related	1.20E+00	3.50E+00	1.50E+00	8.90E+00	2.10E+01	2.60E+01	N.A.	4.70E+01	4.40E+02	5.50E+01	1.30E+02	1.20E+01	N.A.	3.70E+00	SIMS	9 ^a		
				1.50E+00	3.60E+00	1.80E+00	1.10E+01	2.30E+01	2.90E+01	N.A.	4.50E+01	4.70E+02	5.40E+01	1.40E+02	1.20E+01	N.A.	3.80E+00				
		Millennium	Unconformity-related	2.20E+00	1.90E+01	5.30E+00	3.50E+01	5.70E+01	2.30E+01	N.A.	7.80E+01	5.10E+02	5.50E+01	9.80E+01	1.80E+01	N.A.	1.30E+01	SIMS	9 ^a		
				2.10E+00	1.90E+01	5.10E+00	3.40E+01	5.40E+01	2.20E+01	N.A.	7.70E+01	5.00E+02	5.50E+01	1.00E+02	1.80E+01	N.A.	1.20E+01				
				2.10E+00	1.90E+01	5.20E+00	3.50E+01	6.10E+01	2.60E+01	N.A.	8.90E+01	5.90E+02	6.50E+01	1.20E+02	2.10E+01	N.A.	1.50E+01				
				5.10E+00	2.30E+01	6.00E+00	3.20E+01	1.80E+02	3.50E+01	N.A.	7.20E+01	4.10E+02	1.80E+01	1.50E+02	1.60E+01	N.A.	1.10E+01				
				2.10E+00	2.10E+01	5.40E+00	3.30E+01	5.20E+01	2.70E+01	N.A.	1.10E+02	7.50E+02	8.70E+01	1.70E+02	2.70E+01	N.A.	1.80E+01				
				6.00E+02	2.70E+03	9.60E+02	4.90E+03	1.90E+03	2.30E+02	N.A.	6.60E+02	5.00E+03	1.10E+03	3.40E+03	5.30E+02	N.A.	1.50E+02			SIMS	9 ^a
				6.10E+02	2.40E+03	7.80E+02	3.90E+03	1.60E+03	2.10E+02	N.A.	4.60E+02	3.70E+03	8.80E+02	2.60E+03	3.80E+02	N.A.	8.10E+01				
				Sue deposit	Unconformity-related	3.60E-01	5.80E+00	1.70E+00	1.30E+01	5.20E+00	7.70E+00	N.A.	3.20E+01	2.60E+02	4.00E+01	6.50E+01	7.90E+00			N.A.	2.00E+00
	1.80E-01	2.50E+00	5.10E+00			5.60E+00	1.80E+01	5.00E+00	N.A.	2.90E+01	2.30E+02	3.50E+01	5.50E+01	7.00E+00	N.A.	1.90E+00					
	Labrador trough	Mistamisk	Synmetamorphic	1.90E+02	2.40E+03	4.70E+02	2.70E+03	1.30E+03	2.70E+02	N.A.	3.40E+02	1.90E+03	4.40E+02	8.60E+02	1.30E+02	N.A.	5.00E+01	SIMS	9 ^a		
				1.90E+02	2.40E+03	4.90E+02	2.80E+03	1.40E+03	3.00E+02	N.A.	3.80E+02	2.20E+03	4.90E+02	1.00E+03	1.40E+02	N.A.	5.30E+01				
				2.10E+02	2.40E+03	4.90E+02	2.80E+03	1.40E+03	2.90E+02	N.A.	3.20E+02	2.00E+03	3.70E+02	9.30E+02	1.20E+02	N.A.	5.70E+01				
				1.90E+02	2.10E+03	4.30E+02	2.50E+03	1.20E+03	2.50E+02	N.A.	3.20E+02	1.90E+03	3.40E+02	8.50E+02	1.20E+02	N.A.	5.70E+01				
1.70E+02				2.00E+03	4.30E+02	2.50E+03	1.20E+03	2.70E+02	N.A.	3.30E+02	2.00E+03	3.70E+02	9.40E+02	1.30E+02	N.A.	6.20E+01					
2.00E+02				2.40E+03	4.90E+02	2.90E+03	1.40E+03	3.10E+02	N.A.	3.60E+02	2.20E+03	4.00E+02	1.00E+03	1.40E+02	N.A.	6.60E+01					
1.33E+01				2.80E+01	3.50E+00	1.34E+01	2.50E+00	5.90E-01	2.30E+00	3.70E-01	2.10E+00	4.10E-01	1.20E+00	1.90E-01	1.40E+00	1.90E-01					
Czech	Bohemian Massif	Rozna	Unconformity-related	1.20E+01	2.77E+01	3.90E+00	1.72E+01	5.60E+00	6.50E-01	6.10E+00	1.30E+00	9.10E+00	1.90E+00	6.10E+00	9.90E-01	6.70E+00	1.00E+00	ICP-MS	12 ^b		
				2.10E+01	4.48E+01	5.50E+00	2.27E+01	5.50E+00	1.20E+00	6.30E+00	1.20E+00	7.30E+00	1.50E+00	4.10E+00	6.70E-01	4.20E+00	6.00E-01				
				2.82E+01	6.99E+01	9.40E+00	4.40E+01	1.10E+01	5.70E+00	1.38E+01	1.90E+00	1.09E+01	2.30E+00	5.90E+00	7.20E-01	4.60E+00	7.30E-01				
				2.38E+01	4.64E+01	5.50E+00	2.13E+01	4.10E+00	1.10E+00	3.90E+00	6.30E-01	3.50E+00	7.00E-01	2.00E+00	3.10E-01	2.00E+00	3.00E-01				

Table.1. (Continued)

Country	Location	Deposit Name	Deposit Type	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Instrument	Reference
Czech	Bohemian Massif	Rozna	Unconformity-related	1.08E+01	1.75E+01	2.10E+00	8.10E+00	1.90E+00	7.40E-01	1.90E+00	3.30E-01	1.90E+00	4.10E-01	1.10E+00	1.50E-01	8.40E-01	1.30E-01	ICP-MS	12 ^b
		Okrouhla	Unconformity-related	4.29E+01	8.27E+01	9.40E+00	3.50E+01	6.50E+00	1.10E+00	6.20E+00	8.30E-01	4.70E+00	8.60E-01	2.50E+00	3.80E-01	2.30E+00	3.10E-01	ICP-MS	12 ^b
		Radoun		1.91E+01	4.01E+01	4.40E+00	1.71E+01	4.40E+00	1.00E+00	4.40E+00	8.20E-01	5.40E+00	1.10E+00	3.40E+00	4.40E-01	3.20E+00	4.60E-01		
				3.77E+01	7.58E+01	8.70E+00	3.30E+01	6.40E+00	1.50E+00	5.40E+00	9.40E-01	5.30E+00	1.00E+00	2.90E+00	4.70E-01	2.80E+00	4.20E-01		
Denmark	Greenland	Motzfeldt Centre	Intrusive	1.02E+00	1.61E+01	1.10E+00	1.33E+01	2.16E+01	2.73E+00	8.62E+01	2.77E+01	3.28E+02	1.06E+02	4.31E+02	8.39E+01	6.50E+02	9.78E+01	LA-ICPMS	13 ^c
				1.46E+01	1.41E+02	1.27E+01	7.52E+01	5.70E+01	9.55E+00	1.53E+02	4.69E+01	5.21E+02	1.55E+02	5.96E+02	1.09E+02	8.35E+02	1.17E+02		
				9.57E+00	2.34E+02	3.55E+01	2.42E+02	1.12E+02	1.85E+01	1.69E+02	3.97E+01	3.79E+02	9.81E+01	3.56E+02	6.32E+01	4.75E+02	6.70E+01		
				1.08E+01	7.33E+01	9.09E+00	5.01E+01	3.90E+01	5.35E+00	8.51E+01	2.48E+01	2.87E+02	8.17E+01	3.19E+02	5.91E+01	4.52E+02	6.10E+01		
				6.93E+01	8.37E+02	1.08E+02	6.19E+02	2.93E+02	3.78E+01	4.39E+02	1.01E+02	9.11E+02	2.29E+02	7.95E+02	1.34E+02	9.48E+02	1.33E+02		
				6.71E+01	6.87E+02	8.39E+01	4.36E+02	2.46E+02	5.04E+01	3.60E+02	8.47E+01	6.98E+02	1.57E+02	5.20E+02	8.77E+01	6.33E+02	8.24E+01		
				3.43E+00	8.68E+00	1.26E+00	7.61E+00	5.67E+00	1.05E+00	1.81E+01	6.76E+00	7.66E+01	2.11E+01	8.07E+01	1.49E+01	1.18E+02	1.74E+01		
				2.32E+01	4.34E+01	1.19E+01	5.93E+01	3.09E+01	5.31E+00	5.56E+01	1.74E+01	1.96E+02	5.55E+01	2.14E+02	3.89E+01	2.78E+02	3.21E+01		
				2.72E+01	6.91E+01	1.51E+01	7.54E+01	4.39E+01	5.94E+00	9.37E+01	2.90E+01	3.19E+02	8.76E+01	3.27E+02	5.76E+01	4.23E+02	5.63E+01		
				3.42E+01	1.03E+02	1.71E+01	8.76E+01	5.27E+01	7.45E+00	1.33E+02	4.13E+01	4.62E+02	1.33E+02	5.25E+02	9.57E+01	7.30E+02	1.01E+02		
2.66E+01	7.59E+01	7.08E+00	3.15E+01	1.27E+01	1.58E+00	3.05E+01	9.72E+00	1.06E+02	3.30E+01	1.30E+02	2.42E+01	1.93E+02	2.97E+01						
4.47E+01	5.75E+01	1.75E+01	8.33E+01	3.20E+01	4.02E+00	5.40E+01	1.87E+01	2.03E+02	5.56E+01	2.10E+02	3.70E+01	2.59E+02	3.06E+01						
Finland	Nummi-Pusula peninsula	Luthi	Intrusive	4.10E+00	2.60E+03	1.10E+03	6.50E+03	3.00E+03	3.20E+02	N.A.	6.60E+02	4.60E+03	1.10E+03	2.10E+03	2.90E+02	N.A.	3.20E+01	SIMS	9 ^a
				5.80E-01	4.60E+03	1.70E+03	7.80E+03	3.00E+03	1.40E+02	N.A.	8.00E+02	5.10E+03	1.20E+03	2.40E+03	2.70E+02	N.A.	2.60E+01		
France	Massif Central	Bois Noirs	Vein	1.60E+03	3.20E+03	3.10E+02	1.10E+03	1.70E+02	2.10E+01	1.80E+02	1.70E+01	8.00E+01	1.50E+01	3.70E+01	4.00E+00	3.00E+01	5.00E+00	LA-ICPMS	9 ^a
				1.40E+03	3.10E+03	3.00E+02	1.10E+03	1.60E+02	2.10E+01	1.80E+02	1.80E+01	8.20E+01	1.50E+01	3.80E+01	5.00E+00	2.90E+01	5.00E+00		
				1.40E+03	2.90E+03	2.90E+02	1.10E+03	1.80E+02	1.40E+01	2.10E+02	2.10E+01	1.10E+02	1.70E+01	4.50E+01	6.00E+00	3.40E+01	5.00E+00		
	1.50E+03	3.00E+03	3.10E+02	1.20E+03	2.00E+02	1.60E+01	2.30E+02	2.30E+01	1.10E+02	2.00E+01	5.50E+01	6.00E+00	3.80E+01	6.00E+00					

Table.1. (Continued)

Country	Location	Deposit Name	Deposit Type	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Instrument	Reference	
France	Armorican massif	Commanderie	Vein	1.70E+03	2.60E+03	2.10E+02	7.20E+02	6.80E+01	1.00E+01	1.20E+02	6.00E+00	2.00E+01	3.00E+00	9.20E+00	9.00E-01	2.90E+00	7.00E-01	LA-ICPMS	9 ^a	
				1.30E+03	1.70E+03	1.40E+02	4.60E+02	4.30E+01	6.00E+00	8.00E+01	5.00E+00	1.30E+01	2.00E+00	5.10E+00	6.00E-01	2.80E+00	5.00E-01			
			Ecarpiere	Vein	3.60E+02	3.90E+02	2.50E+01	7.90E+01	1.00E+01	4.00E+00	1.70E+01	1.30E+00	7.40E+00	1.10E+00	3.80E+00	6.00E-01	3.20E+00	7.00E-01	LA-ICPMS	9 ^a
					3.50E+02	3.20E+02	1.90E+01	5.80E+01	5.60E+00	3.00E+00	1.30E+01	1.20E+00	4.00E+00	8.00E-01	2.10E+00	2.00E-01	2.10E+00	2.00E-01		
Japan	Ceteral Japan	Tono	Sandstone	3.35E+02	1.20E+03	1.85E+02	1.21E+03	2.02E+02	3.20E+01	1.81E+02	1.93E+01	1.26E+02	3.18E+01	9.00E+01	1.35E+01	8.26E+01	1.52E+01	ICP-MS	14 ^d	
				4.85E+02	1.46E+03	2.63E+02	1.43E+03	3.06E+02	4.16E+01	2.22E+02	2.78E+01	2.03E+02	5.32E+01	1.69E+02	2.74E+01	2.31E+02	4.12E+01			
				1.28E+03	6.35E+03	1.03E+03	7.04E+03	1.44E+03	2.13E+02	1.07E+03	1.44E+02	9.26E+02	2.09E+02	6.34E+02	1.00E+02	6.50E+02	1.31E+02			
				3.09E+02	1.45E+03	2.05E+02	1.58E+03	3.85E+02	5.53E+01	2.79E+02	4.51E+01	3.10E+02	6.71E+01	2.03E+02	3.71E+01	2.89E+02	4.85E+01			
	Southwest Japan	Unazuki	Unconformity -related	1.50E-03	3.00E+01	2.20E-02	2.30E-01	8.80E-01	9.50E-01	1.50E+01	7.70E+00	1.26E+02	4.60E+01	2.65E+02	5.10E+01	5.28E+02	1.54E+02	SHRIMP	15 ^e	
				3.00E-01	8.94E+02	2.40E-01	4.60E+00	1.90E+01	2.00E+01	2.62E+02	1.23E+02	1.85E+03	6.16E+02	3.05E+03	5.60E+02	5.03E+03	1.17E+03			
				1.40E-02	2.50E+02	4.30E-02	9.10E-01	5.30E+00	6.30E+00	9.10E+01	5.10E+01	8.85E+02	3.24E+02	1.77E+03	3.40E+02	3.23E+03	7.74E+02			
				1.10E-01	6.46E+02	1.30E-01	2.60E+00	1.30E+01	1.40E+01	1.82E+02	8.60E+01	1.29E+03	4.28E+02	2.11E+03	3.74E+02	3.31E+03	7.42E+02			
				1.40E-02	8.00E+01	3.40E-02	4.10E-01	1.50E+00	1.60E+00	2.20E+01	1.10E+01	1.79E+02	6.20E+01	3.32E+02	6.40E+01	6.04E+02	1.57E+02			
				5.40E-02	4.24E+02	1.10E-01	2.00E+00	9.00E+00	9.80E+00	1.25E+02	6.10E+01	9.38E+02	3.15E+02	1.59E+03	2.95E+02	2.70E+03	6.28E+02			
				3.10E-02	3.85E+02	8.20E-02	1.60E+00	8.40E+00	9.50E+00	1.45E+02	7.90E+01	1.34E+03	4.80E+02	2.53E+03	4.75E+02	4.44E+03	1.05E+03			
				4.30E-03	4.67E+02	5.70E-02	1.40E+00	8.50E+00	9.50E+00	1.29E+02	6.30E+01	9.90E+02	3.36E+02	1.72E+03	3.20E+02	2.87E+03	6.83E+02			
				3.50E-03	2.33E+02	3.70E-02	7.90E-01	4.50E+00	5.10E+00	6.90E+01	3.40E+01	5.43E+02	1.92E+02	1.02E+03	1.95E+02	1.84E+03	4.43E+02			
				2.60E-02	8.78E+02	1.00E-01	2.50E+00	1.40E+01	1.50E+01	2.05E+02	1.02E+02	1.65E+03	5.69E+02	2.90E+03	5.34E+02	4.74E+03	1.07E+03			
				2.40E-02	4.70E+01	2.00E-02	2.80E-01	1.80E+00	1.60E+00	1.50E+01	6.20E+00	1.04E+02	3.90E+01	2.35E+02	5.20E+01	5.55E+02	1.50E+02			
				7.30E-01	5.11E+02	3.60E-01	4.80E+00	1.40E+01	1.50E+01	1.60E+02	7.60E+01	1.17E+03	3.89E+02	1.98E+03	3.69E+02	3.29E+03	7.76E+02			
2.50E-01	1.35E+02	1.70E-01	1.50E+00	3.40E+00	3.90E+00	4.20E+01	2.00E+01	3.49E+02	1.30E+02	6.95E+02	1.35E+02	1.25E+03	2.93E+02							
5.50E-02	6.10E+01	4.80E-02	5.80E-01	1.60E+00	1.70E+00	2.20E+01	1.10E+01	1.77E+02	6.30E+01	3.39E+02	7.00E+01	6.28E+02	1.62E+02							

Table.1. (Continued)

Country	Deposit Name	Location	Deposit Type	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Instrument	Reference
Japan	Unazuki	Southwest Japan	Unconformity -related	5.60E-03	1.44E+02	3.40E-02	5.80E-01	2.70E+00	2.90E+00	4.00E+01	2.00E+01	3.18E+02	1.12E+02	5.73E+02	1.12E+02	1.00E+03	2.35E+02	SHRIMP	15 ^c
				1.00E-01	1.61E+02	1.20E-01	1.20E+00	3.00E+00	3.30E+00	4.10E+01	2.10E+01	3.31E+02	1.15E+02	6.14E+02	1.28E+02	1.11E+03	2.69E+02		
				3.30E-02	5.10E+01	1.40E-01	2.60E+00	7.00E+00	8.40E+00	1.18E+02	4.60E+01	6.97E+02	2.33E+02	1.18E+03	2.19E+02	1.93E+03	4.29E+02		
				2.70E-02	2.27E+02	3.90E-02	7.70E-01	4.20E+00	4.50E+00	6.20E+01	3.10E+01	4.97E+02	1.72E+02	7.43E+02	1.74E+02	1.61E+03	3.75E+02		
				1.80E+01	2.53E+03	1.70E+01	2.02E+02	1.93E+02	2.55E+02	7.00E+02	1.67E+02	1.70E+03	5.08E+02	2.07E+03	3.89E+02	3.15E+03	7.33E+02		
				5.30E+01	4.88E+03	3.40E+01	2.88E+02	2.15E+02	2.58E+02	8.20E+02	2.05E+02	3.07E+03	7.15E+02	3.19E+03	5.64E+02	4.84E+03	1.05E+03		
				7.20E+01	9.48E+03	6.70E+01	7.12E+02	6.10E+02	5.57E+02	1.68E+03	3.42E+02	3.50E+03	9.41E+02	4.22E+03	7.22E+02	6.30E+03	1.39E+03		
				4.90E+01	6.91E+03	4.50E+01	5.37E+02	3.87E+02	3.81E+02	1.27E+03	2.56E+02	2.63E+03	7.46E+02	3.36E+03	5.87E+02	5.10E+03	1.14E+03		
				1.50E+01	1.38E+03	1.00E+01	1.10E+02	1.18E+02	1.46E+02	5.52E+02	2.12E+02	2.76E+03	7.38E+02	3.36E+03	6.16E+02	5.34E+03	9.89E+02		
				7.20E+01	7.02E+03	4.30E+01	2.92E+02	1.66E+02	1.41E+02	5.57E+02	1.75E+02	2.14E+03	6.24E+02	2.67E+03	5.13E+02	4.44E+03	9.70E+02		
				2.00E+01	4.43E+03	2.40E+01	2.80E+02	3.11E+02	3.53E+02	9.60E+02	2.30E+02	2.55E+03	6.91E+02	2.77E+03	5.14E+02	4.38E+03	9.07E+02		
				1.80E+01	3.78E+03	2.00E+01	2.03E+02	2.30E+02	2.91E+02	9.30E+02	2.51E+02	2.84E+03	8.12E+02	3.44E+03	6.49E+02	5.63E+03	1.26E+03		
				3.90E+01	3.09E+03	4.30E+01	3.31E+02	2.59E+02	3.92E+02	8.25E+02	1.78E+02	1.84E+03	5.31E+02	2.23E+03	4.13E+02	3.50E+03	7.30E+02		
				8.20E+01	8.04E+03	4.70E+01	3.49E+02	2.39E+02	2.10E+02	8.22E+02	2.17E+02	2.49E+03	7.06E+02	2.85E+03	5.67E+02	4.98E+03	1.04E+03		
Namibia	Rossing	Damaran belt	Intrusive	2.70E+02	3.90E+03	4.90E+02	2.60E+03	1.50E+03	8.80E+01	N.A.	5.50E+02	4.30E+03	8.90E+02	2.90E+03	4.50E+02	N.A.	8.10E+01	SIMS	9 ^a
				2.70E+02	3.60E+03	4.30E+02	2.70E+03	1.40E+03	7.50E+01	N.A.	3.80E+02	3.10E+03	6.90E+02	1.90E+03	3.20E+02	N.A.	5.60E+01		
Russia	Strel'tsovskoye	Stretsovskaya caldeira	Volcanic-related	9.20E+01	1.50E+03	3.50E+02	3.10E+03	2.20E+03	2.20E+02	N.A.	5.70E+02	3.60E+03	6.90E+02	1.80E+03	2.00E+02	N.A.	1.20E+02	SIMS	9 ^a
				6.10E+01	1.10E+03	2.50E+02	2.10E+03	1.80E+03	1.50E+02	N.A.	5.90E+02	4.10E+03	8.30E+02	2.30E+03	2.70E+02	N.A.	1.60E+02		
				6.30E-01	5.60E-01	1.00E-01	9.70E-01	7.40E+01	9.00E+00	N.A.	3.10E-01	1.40E+00	3.30E-01	6.20E-01	1.30E-01	N.A.	1.00E-01		
				6.90E-01	5.10E-01	1.10E-01	1.00E+00	9.60E+01	1.10E+01	N.A.	3.40E-01	1.60E+00	3.80E-01	6.70E-01	1.50E-01	N.A.	1.00E-01		
6.50E-01	6.50E-01	1.50E-01	1.30E+00	7.60E+01	9.30E+00	N.A.	3.20E-01	1.60E+00	3.50E-01	5.80E-01	9.30E-02	N.A.	1.00E-01						
1.00E+00	1.30E+00	1.50E-01	1.20E+00	7.80E+01	9.60E+00	N.A.	3.00E-01	1.40E+00	3.00E-01	5.60E-01	1.30E-01	N.A.	1.00E-01						

Table.1. (Continued)

Country	Deposit Name	Location	Deposit Type	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Instrument	Reference
				1.60E+02	3.50E+02	1.20E+02	5.40E+02	2.50E+02	4.80E+01	N.A.	6.20E+01	2.90E+02	5.50E+01	1.00E+02	1.40E+01	N.A.	3.30E+00		
				1.20E+02	2.60E+02	9.30E+01	4.20E+02	2.10E+02	3.80E+01	N.A.	4.90E+01	2.30E+02	4.30E+01	7.10E+01	8.20E+00	N.A.	2.60E+00		
Zambia	Kawanga	Katanga system	Synmetamorphic	1.30E+02	2.70E+02	9.60E+01	4.30E+02	2.00E+02	4.00E+01	N.A.	5.00E+01	2.40E+02	4.50E+01	8.40E+01	1.10E+01	N.A.	2.60E+00	SIMS	9 ^a
				1.40E+02	3.00E+02	1.10E+02	4.70E+02	2.20E+02	4.20E+01	N.A.	5.10E+01	2.50E+02	4.60E+01	8.50E+01	1.10E+01	N.A.	2.60E+00		
				1.40E+02	3.40E+02	1.10E+02	5.00E+02	2.40E+02	4.50E+01	N.A.	5.00E+01	2.70E+02	5.00E+01	9.10E+01	1.10E+01	N.A.	2.70E+00		
				1.50E+02	3.10E+02	1.10E+02	4.50E+02	2.30E+02	4.10E+01	N.A.	4.90E+01	2.40E+02	4.50E+01	8.60E+01	1.10E+01	N.A.	2.60E+00		

^a Because of interferences, the concentrations of Gd and Yb could not be measured by SIMS; the relative standard deviation was lower than $\pm 20\%$ for REE concentrations higher than 10ppm and got worse ($\pm 50\%$ to $\pm 70\%$) for those lower than 10ppm when a standard uraninite from Mistamisk was measured as unknown samples; the concentrations lower than limit of detections (LODs) were taken as the value of LODs.

^b Analytical accuracy and reproducibility were not reported.

^c The precision was typically $\pm 10\text{-}15\%$ at 95% confidence.

^d Due to the heterogeneity, the relative standard deviations of Ce, Pr, and Nd compositions were 27%, 11% and 12% respectively when measuring the standard uraninite, while it was less than 10% for the other REEs.

^e The analytical errors of La, Pr, and Sm were 50% ; Nd and Eu were 30% ; Gd and Tb were 20% ; and the other REEs were less than 15% when measuring a standard material.

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