

Geochemical and petrographic characterisation of serpentinitised peridotite from the Indian Ocean: Insights into mantle processes and tectonic evolution

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Table S1 — Representative EPMA data of magnetite from the studied abyssal peridotites of the Central Indian Ridge (CIR) with calculated Cr#, Mg#, Fe# values

Sample No.	SK 195/1	SK 195/1	SK 195/1	SK 195/1	SK 195/7	SK 195/7
DataSet / Point	D4	E3	F3	F4	C1	E5
Na ₂ O	0.18	0.01	0.03	-0	-0	0.04
MgO	4.24	4.21	2.17	3.5	0.56	0.32
SiO ₂	5.2	3.9	2.2	3.9	0.1	0.1
Al ₂ O ₃	0.66	0.04	-0	-0	0.12	0.03
P ₂ O ₅	0	0	0.01	0.05	-0	-0
K ₂ O	0.02	-0	0	-0	-0	-0
CaO	0	0.1	0	0	0.1	0
TiO ₂	0	0.1	0	0	0.2	0.1
MnO	0.1	0.11	0.19	0.18	0.01	0.16
FeO	82.5	86	88.9	87.5	91.6	94.2
Cr ₂ O ₃	0.1	0.01	0	0.01	1.58	-0.01
NiO	0.09	0.1	-0.1	0.15	0.12	0.02
Total	93.2	94.4	93.4	95.3	94.4	94.9
Cr#	0.09227	0.14362	0	-2.03805	0.8983	-0.28802
Mg#	0.19553	0.20112	0.11287	0.16693	0.03129	0.01797
Fe#	0.98046	0.99883	1.00024	1.00008	0.97335	0.99948

Table S2 — Representative EPMA data of spinel from the studied abyssal peridotites of the Central Indian Ridge (CIR) with calculated Cr#, Mg#, Fe# values

Sample No.	SK 195/1	SK 195/1	SK 195/1	SK 195/1	SK 195/1
DataSet / Point	A6	B1	B2	C5	C6
Na ₂ O	-0	0.01	0	0.01	-0
MgO	13.7	15.7	15.6	15.3	14.8
SiO ₂	-0	0.03	0.05	0.09	0.02
Al ₂ O ₃	29	30.6	30.3	30.7	29.7
P ₂ O ₅	-0	-0	0	0.02	-0
K ₂ O	0.01	0.03	-0	0	-0
CaO	0.1	0.06	-0.1	0.05	0.05
TiO ₂	0.1	0.1	0.1	0.1	0.1
MnO	0.2	0.1	0.1	0.1	0.1
FeO	18.3	15.6	15.7	16	16.4
Cr ₂ O ₃	37.2	38.4	38.4	38	38.3
NiO	0	0.2	0.1	0.1	0
Total	98.49	100.8	100.2	100.3	99.33
Cr#	0.46286	0.4574	0.45948	0.45411	0.46343
Mg#	0.61754	0.68032	0.6807	0.66483	0.65311
Fe#	0.02791	0.0206	0.02168	0.01863	0.02024

Table S3 — Representative EPMA data of serpentine from the studied abyssal peridotites of the Central Indian Ridge (CIR)

Sample No.	Data Set/Point	Na ₂ O	MgO	SiO ₂	Al ₂ O ₃	P ₂ O ₅	K ₂ O	CaO	TiO ₂	MnO	FeO	SO ₂	Cr ₂ O ₃	NiO	Total
SK 195/1	A2	0.05	38.1	38.8	2.44	0.04	0.02	0.04	0.04	0.01	3.93	0.06	1.11	0.14	84.8
SK 195/1	A3	0.07	39.3	41.8	0.37	0	0.02	0.03	0	0.03	2.14	0.04	-0.01	0	83.8
SK 195/1	B5	0.08	36.7	38.5	2.46	0.01	0.01	0.06	0.01	0.03	4.12	0.08	1.04	0.12	83.2
SK 195/1	B6	0.06	40.5	39.9	0.29	0	0	0.03	0.01	0.02	1.88	0.03	0.05	0.18	83
SK 195/1	C4	0.02	40.3	41.2	0.33	0.02	0	0.02	0.01	0.02	1.88	0.03	0.02	0.09	83.9
SK 195/1	C7	-0.01	41.5	41	0.22	0.01	-0.02	0.01	0.04	0.07	2.12	0.04	0.02	0.09	85.1
SK 195/1	D1	-0.02	39.6	40.8	0.58	0	0	0.03	0	0.01	1.97	0.05	-0.01	0.06	83.1
SK 195/1	D2	0.06	39.9	40.7	0.45	0	-0.01	0.03	0.03	0.02	2.21	0.01	0.05	0.04	83.5
SK 195/1	D3	0.04	40	41.5	0.18	0.01	0	0.02	0.03	0.03	2.61	0.04	0.01	0.15	84.6
SK 195/1	D5	0.08	36.6	39.4	2.73	0.01	-0.01	0.07	0.03	0.07	3.92	0.06	0.87	0.03	83.9
SK 195/1	D6	0.01	39.2	41.4	0.78	-0.01	0	0.02	0	-0.01	1.67	0.06	0.03	0.25	83.3
SK 195/7	A2	0.09	38.2	39.9	1.95	0	0.02	0.07	-0.01	0.03	3.35	0.09	1.2	0.16	85
SK 195/7	A5	-0.02	40.7	41.4	0.23	-0.01	0	0.04	0.04	0.03	1.72	0.07	0.03	0.28	84.5
SK 195/7	B2	0.03	39.5	40.5	0.44	0.01	0	0.01	-0.01	0.03	1.61	0.05	0.05	0.12	82.3
SK 195/7	B3	0	40.6	39.8	0.62	0.02	0	0.01	0.01	0.01	1.81	0.03	0.05	0	82.9
SK 195/7	C2	0.02	36.6	40	0.64	-0.01	0.02	0.05	-0.01	0.28	6.81	-0.01	0.08	0	84.5
SK 195/7	C5	0.05	40.2	41	0.22	0.01	0.01	0.03	0	0.05	2.19	0.04	0.06	0.27	84.1
SK 195/7	D2	0.08	37.5	39.3	1.7	-0.01	0	0.06	0.06	0.03	3.13	0.09	1.21	0.2	83.3
SK 195/7	D4	0.01	40.3	41.3	0.21	0.02	-0.01	0.02	0.01	0.04	1.74	0.05	-0.02	-0.04	83.7
SK 195/7	E2	0.02	38.4	38.7	2.22	0.03	0.02	0.07	0.03	0.04	4	0.09	1.04	0.05	84.8
SK 195/7	E2	0.02	40.5	41.3	0.24	-0.04	0.02	0.02	0.01	0.04	1.81	0.03	-0.02	0.16	84.1