Data Repository Item DR2009xxx

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Table DR1. Summary of fault population and strain characterisation within the central Indian Ocean derived from six north-south seismic reflection profiles.

Profile Id		Number of Faults	% of active faults on each profile	Total vertical displacement (TWT s)[#]	Total Vertical throw (m)	Addition of sub-seismic throw 40% (m)	Total Heave assuming 40° fault dip (m)	Strain [*]	
78.8°E (Conrad) **815.3 km** Van Orman et al. (1995)		127	-	7.20	9360	13104	15617	0.019	
81.4°E (AS 10-01 + CD28) **497.6 km**	*Before 8.0 Ma*	*10*	*18*	*1.0*	*1300*	*1820*	*2169*	*0.0043*	
	8.0-7.5 to 5.0-4.0 Ma	*54*	*98*	*3.11*	*4043*	*5660*	*6745*	*0.0134*	
	5.0-4.0 to 0.8 Ma	*49*	*89*	*2.84*	*3692*	*5169*	*6160*	*0.0122*	
	0.8 Ma to Recent	*14*	*25*	*0.41*	*533*	*746*	*889*	*0.0018*	
	Total	55		7.36	9568	13395	15964	0.031	
81.5°E (Phedre Leg I) – **878.1 km** Chamot-Rooke et al. (1993)		134	-	15.92	20690	28966	34520	0.038	
83.7°E (AS 10-03) **894.4 km**	*Before 8.0 Ma*	*3*	*4*	*0.27*	*351*	*491*	*585*	*0.0007*	
	8.0-7.5 to 5.0-4.0 Ma	*67*	*88*	*6.7*	*8710*	*12194*	*14532*	*0.0160*	
	5.0-4.0 to 0.8 Ma	*25*	*33*	*0.3*	*390*	*546*	*651*	*0.0007*	
	0.8 Ma – Recent	*53*	*70*	*1.19*	*1547*	*2166*	*2581*	*0.0029*	
	Total	76		8.46	10998	15397	18349	0.0201	
84.5°E (Phedre Leg II) - **989.8 km** Jestin (1994)		92	-	14.29	18574	26004	30991	0.030	
87°E (AS 10-05) **1632.7 km**	*Before 8.0 Ma*	*22*	*14*	*3.14*	*4082*	*5715*	*6811*	*0.0042*	
	8.0-7.5 to 5.0-4.0 Ma	*111*	*69*	*8.1*	*10530*	*14742*	*17569*	*0.0107*	
	5.0-4.0 to 0.8 Ma	*91*	*56*	*3.2*	*4160*	*5824*	*6941*	*0.0042*	
	0.8 Ma – Recent	*100*	*62*	*2.27*	*2951*	*4131*	*4923*	*0.0030*	
	Total	162		16.71	21723	30412	36244	0.0217	**% Total Strain**
81.4°E + 83.7°E + 87°E 3024.7 km	*Before 8.0 Ma*	35	**12**	4.41	5733	8026	9565	0.0032[*]	**14**
	8.0-7.5 to 5.0-4.0 Ma	232	79	17.91	23283	32596	38846	0.0127[*]	55
	5.0-4.0 to 0.8 Ma	193	66	6.34	8242	11539	13752	0.0045[*]	19
	0.8 Ma – Recent	167	56	3.87	5031	7043	8394	0.0028[*]	12
	Total	293		32.53	42289	59204	70557	0.0228[*]	-

[#] Assuming an average velocity of 2600 ms^{-1}

[*] Strain is calculated for the total deformed length of each profile (the distance between the most widely distributed faults).

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