Supporting Information for "Quantifying inclination shallowing and representing flattening uncertainty in sedimentary paleomagnetic poles"

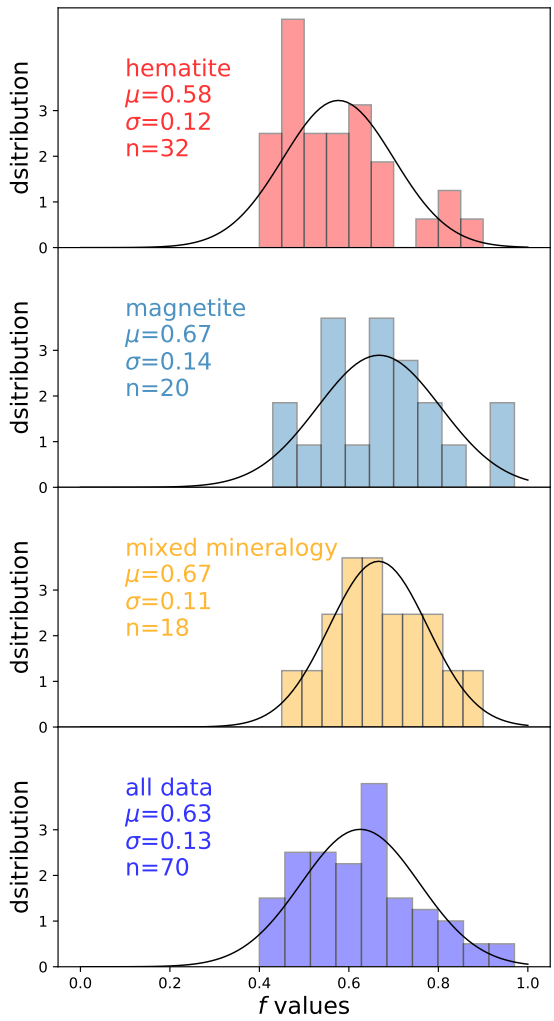

Figure S1. Distribution of f factors building on the compilations of Bilardello (2016) and Vaes et al. (2021), we compiled f factors from both anisotropy and E/I methods from clastic sedimentary rocks (Table S1). The distributions of f factors are categorized by remanence carrying mineralogy (hematite, magnetite, or a mix of hematite and magnetite). Also shown is the distribution of all compiled f values. For each category, we fit the data with a normal distribution (black curves) and report the mean and one standard devation values such that one can use these values in the *ipmag.find_compilation_kent* function in the Python package PmagPy Tauxe et al. (2016) to estimate uncertainties associated with a Kent distribution for legacy paleomagnetic data.

Table S1. Compilation of published f factors

locality	lithology	f	f_min	f_max	ref	mineralogy	method	n
Subei	red beds	0.49	0.37	0.64	Tauxe and Kent, 2004	hematite	EI	222
Potwar	red beds	0.77	0.58	1.11	Tauxe, 2005	hematite	EI	105
Gudie	fluvial sediments	0.63	0.47	0.73	Yan et al., 2005	mixed	EI	627
Dan River	red siltstone and gray/black mud	0.59	0.49	0.74	Kent and Tauxe, 2005	mixed	EI	333
Princeton	red beds	0.57	0.39	1.04	Kent and Tauxe, 2005	hematite	EI	148
Nursery	red beds	0.4	0.33	0.54	Kent and Tauxe, 2005	hematite	EI	194
Titusville	red beds	0.63	0.54	0.76	Kent and Tauxe, 2005	hematite	EI	308
Rutgers	red beds	0.66	0.57	0.73	Kent and Tauxe, 2005	hematite	EI	336
Somerset	red beds	0.63	0.53	0.73	Kent and Tauxe, 2005	hematite	EI	309
Weston	red beds	0.49	0.42	0.59	Kent and Tauxe, 2005	hematite	EI	246
Martinsville	red beds	0.49	0.42	0.59	Kent and Tauxe, 2005	hematite	EI	302
Jameson Land	red beds	0.58	0.47	0.81	Kent and Tauxe, 2005	hematite	EI	222
Hartford	red beds	0.54	0.48	0.62	Kent and Olson, 2008	hematite	EI	315
Calatayud basin	fluvial and lacustrine sediments	0.73	0.63	0.84	Krijgsman and Tauxe, 2004	mixed	EI	648
Nanaimo	marine mud- and siltstones	0.97	0.79	1.05	Krijgsman and Tauxe, 2006	magnetite	EI	143
Kefala & Aspropetres	palustrine and lacustrine sediments	0.59	0.37	0.89	Van Hinsbergen et al., 2007	magnetite	EI	75
Nacimiento	claystones and siltstones	0.84	0.5	1.01	Tauxe et al., 2008	hematite	EI	102
Dome de Barrot	red mudstone and purple siltstone	0.9	0.79	1.03	Haldan et al., 2009	hematite	EI	411
Lodeve (Kungurian Äï Wordian)	red siltstones and calcareous siltstone	0.78	0.37	1	Haldan et al., 2009	mixed	EI	146
Lodeve (Sakmarian-Artinskian)	red siltstones and calcareous siltstone	0.83	0.63	1.16	Haldan et al., 2009	mixed	EI	143
Artes	red beds	0.58	0.42	0.77	Costa et al., 2009	mixed	EI	221
TA5	turbiditic volcanoclastics	0.94	0.68	1	Meijers et al., 2010	magnetite	EI	115
CtgÄêXsh	red beds	0.78	0.51	1	Dupont-Nivet et al., 2010	mixed	EI	95
Xiejia	red beds	0.9	0.72	1.04	Dupont-Nivet et al., 2010	mixed	EI	185
Mahalagou	red beds	0.68	0.54	0.78	Dupont-Nivet et al., 2010	mixed	EI	228
Shexing	red beds	0.48	0.44	0.52	Tan et al., 2010	hematite	EI	377
Korkuteli	blue clays and turbiditic sandstone	0.67	0.53	0.83	Van Hinsbergen et al., 2010	mixed	EI	192
Shexing	red beds	0.66	0.53	0.91	Van Hinsbergen et al., 2012	hematite	EI	100
Karoo basin	fluvial sand-, silt- and mudstone	0.7	0.41	0.9	Lanci et al., 2013	magnetite	EI	136
Linzizong	volcaniclastics and mudstones	0.43	0.32	0.57	Hunag et al., 2013	magnetite	EI	119
Mengla	red beds	0.45	0.38	0.55	Tong et al., 2013	mixed	EI	85
Sonkul Basin (DUN)	red beds	0.58	0.44	0.8	Kirsher et al, 2014	hematite	EI	115
Sonkul Basin (DUN)	red beds	0.58	0.44	0.8	Kirsher et al, 2014	magnetite	EI	115
Kangtuo lower section	red beds	0.53	0.46	0.6	Ding et al., 2015	hematite	EI	414
Kangtuo upper section	red beds	0.42	0.33	0.56	Ding et al., 2015	hematite	EI	137
Sangsang	turbiditic sandstones	0.51	0.4	0.66	Hunag et al., 2015	magnetite	EI	117

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locality	lithology	f	f_min	f_max	ref	mineralogy	method	n
Qushenla	red beds	0.61	0.49	0.76	Chen et al, 2017	mixed	EI	174
Sangsang	red beds	0.52	0.42	0.72	Meng et al., 2017	mixed	EI	223
Gonjo NE limb	red beds	0.62	0.52	0.78	Tong et al., 2017	mixed	EI	102
Gonjo SW limb	red beds	0.73	0.58	0.94	Tong et al., 2017	mixed	EI	203
Gongjue	red beds	0.66	0.54	0.81	Zhang et al., 2018	mixed	EI	150
Ranmugou	red beds	0.55	0.47	0.64	Zhang et al., 2018	mixed	EI	178
Rehbrein Creek	shales and quart-rich turbidites	0.47	0.37	0.61	Dallanave et al., 2018	magnetite	EI	133
Lainbach Valley	claystone and calcarenites	0.77	0.59	0.98	Dallanave et al., 2018	magnetite	EI	87
Yaw	mudstones, sandstones and siderite beds	0.62	0.4	1.29	Westerweel et al., 2019	magnetite	EI	168
NW James Ross Island	sandstones and mudstones	0.54			Milanese et al., 2019	magnetite	EI	119
Gonjo 1	red beds	0.46	0.32	0.68	Vaes et al., 2021	hematite	EI	128
Gonjo 2	red beds	0.56	0.43	0.8	Vaes et al., 2021	hematite	EI	145
Gonjo 3	red beds	0.64	0.48	0.84	Vaes et al., 2021	hematite	EI	129
Gonjo 4	red beds	0.47	0.35	0.64	Vaes et al., 2021	hematite	EI	137
Gonjo 5	red beds	0.48	0.33	0.69	Vaes et al., 2021	hematite	EI	156
Gonjo 6	red beds	0.44	0.31	0.62	Vaes et al., 2021	hematite	EI	133
Gonjo 8	red beds	0.52	0.41	0.7	Vaes et al., 2021	hematite	EI	167
Gonjo 9	red beds	0.65	0.51	0.84	Vaes et al., 2021	hematite	EI	167
Qubeiya and Jialazi Fms	sandstone, siltstone, wackestone	0.81	0.62	0.99	Li et al., 2022	magnetite	EI	87
Cut Face	red beds	0.64	0.5	0.86	Pierce et al., 2022	hematite	EI	157
Pigeon Point	mud- silt- and sandstone	0.71			Kodama and Davi, 1995	magnetite	anisotropy	
Nacimiento	claystones and shaless and siltstones and sandstones	0.79			Kodama, 1997	magnetite	anisotropy	
Ladd	claystones and shaless and siltstones and sandstones	0.65			Tan and Kodama, 1998	magnetite	anisotropy	
Point Loma	claystones and shaless and siltstones and sandstones	0.56			Tan and Kodama, 1998	magnetite	anisotropy	
Valle	sandstone	0.69			Li et al., 2001	magnetite	anisotropy	
Kapusaliang	red beds	0.43			Tan et al., 2003	hematite	anisotropy	
Nanaimo	marine mud- and sandstones	0.7			Kim and Kodama, 2004	magnetite	anisotropy	
Perforada	interbedded mudstone and sandstone	0.67			Vaughn et al., 2005	magnetite	anisotropy	
Glenshaw	limestone and siltstone	0.65			Kodama, 2009	magnetite	anisotropy	
Mauch Chunk	calcareous mudstone and sandstone	0.49			Bilardello and Kodama 2010a	hematite	anisotropy	
Deer Lake	red beds	0.54			Bilardello and Kodama 2010b	hematite	anisotropy	
Shepody	red beds	0.64			Bilardello and Kodama, 2010c	hematite	anisotropy	
Maringouin	red beds	0.83			Bilardello and Kodama, 2010c	hematite	anisotropy	
Itarare	marine rhythmites and diamictites and shale and sandstones	0.68			Bilardello et al. 2018	mixed	anisotropy	

References

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