

Supplementary Information to Source Mechanism of the Mw 6.4 Nicobar earthquake of July 28, 2025: constraints from GNSS and strong motion accelerograph observations

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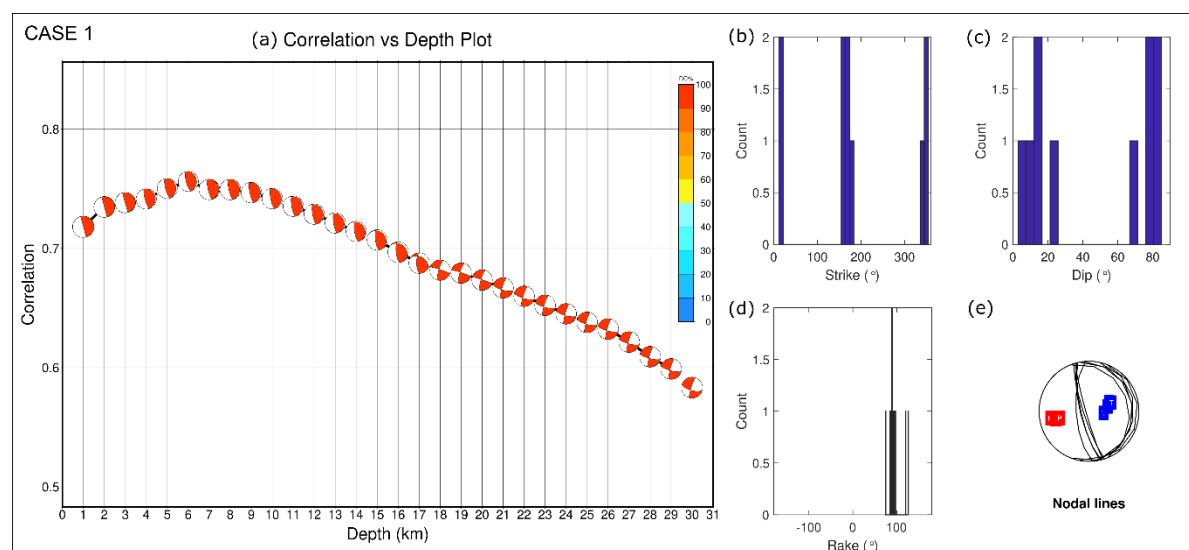


Fig. S1 Case I: using SMA data alone. **(a)** Correlation between the observed and synthetic waveforms and focal mechanism solution, as a function of depth. **(b),(c)** and **(d)** Histograms showing uncertainty in the strike, dip, and rake angles, respectively. **(e)** Focal mechanism solutions from Jack-knifing analysis. A pair of nodal planes were plotted for each combination of stations. The pressure and tension axes are shown as red and blue squares, respectively, for each station combination

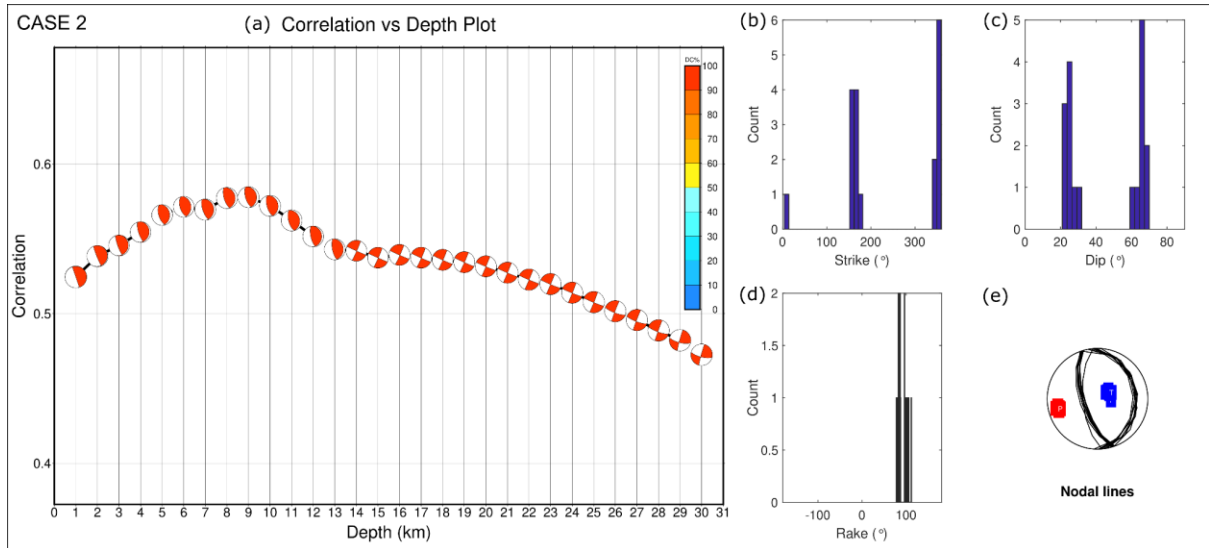


Fig. S2 Case II: same as Figure S1 but for the combination of SMA and GNSS data

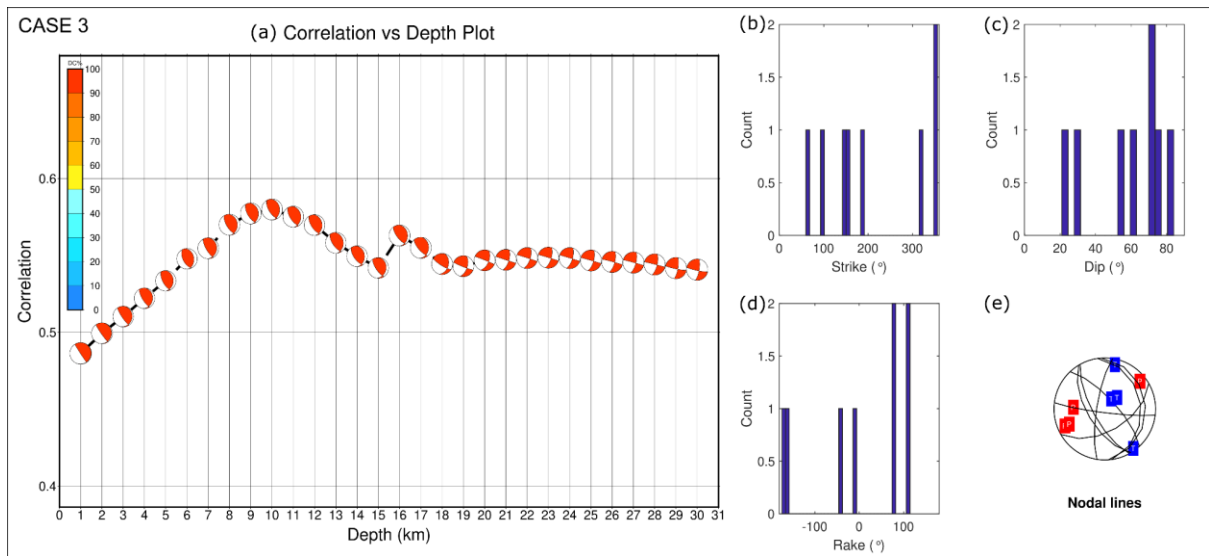


Fig. S3 Case III: same as Figure S1 but for GNSS data alone

Table S1 Estimates of focal mechanisms reported by various agencies

Data source	Depth (km)	Strike (°) Nodal plane 1	Dip (°) Nodal plane 1	Rake (°) Nodal plane 1	Strike (°) Nodal plane 2	Dip (°) Nodal plane 2	Rake (°) Nodal plane 2
SC4	14	358	7	121	147	84	86
NEIC	24	351	10	116	145	81	85

GCMT	12	338	7	96	152	83	89
GFZ	29	320	8	76	154	82	91
CPPT	16	323	8	92	141	82	90
IPGP	29	340	14	99	151	77	88
USGS	21.5	341	27	104	145	64	83