

*Remote Sensing*

Supporting Information for

**A new method for InSAR stratified tropospheric delay correction facilitating refinement of coseismic displacement field of small-to-moderate earthquakes**

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Figure S1 to S21.

**Introduction**

This file contains Figure S1-S21. Interferograms before and after tropospheric corrections of the rest 21 events tested in this study are listed here.

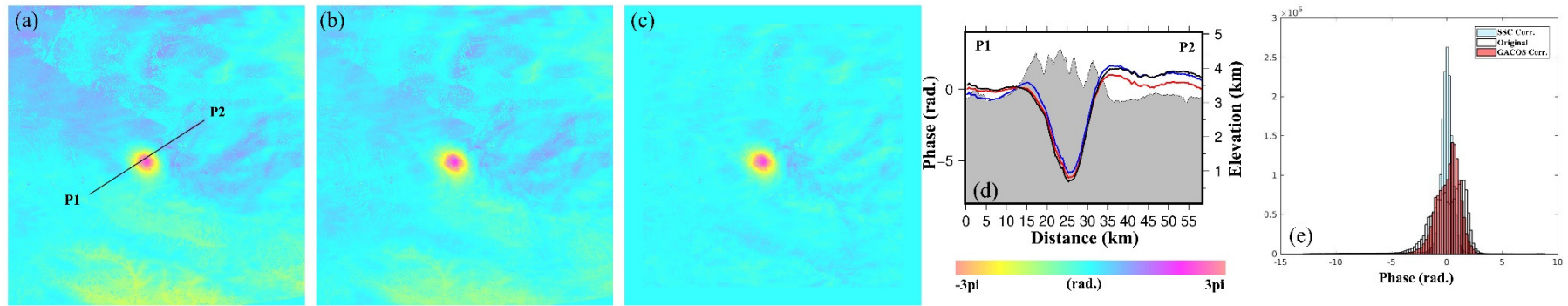


Figure S1 Correction result for the Mw 5.87 earthquake in Menyuan China on 2016/1/20. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

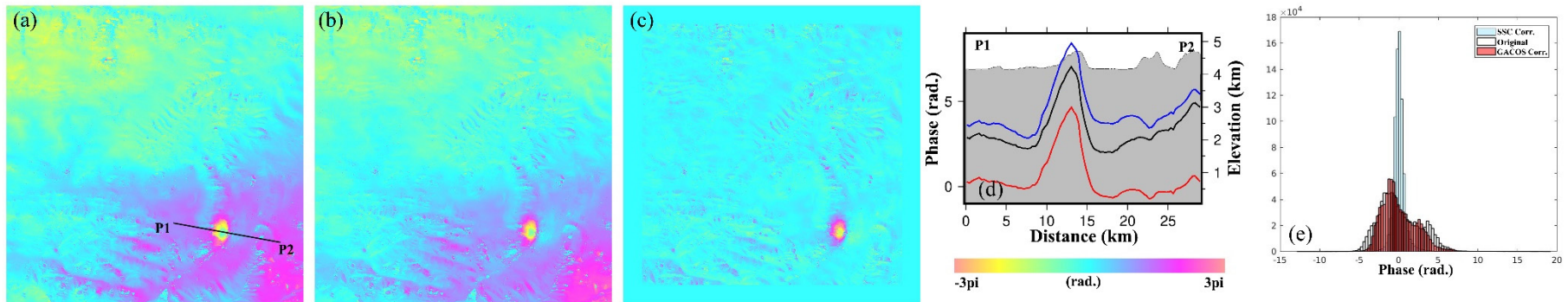


Figure S2 Correction result for the Mw 5.58 earthquake in Dingjie China on 2016/05/22. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

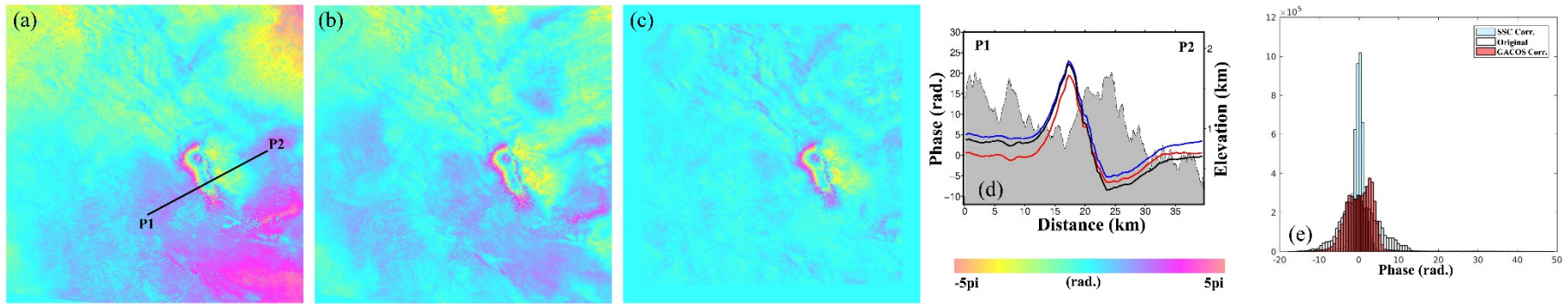


Figure S3 Correction result for the Mw 6.16 earthquake in Norcia Italy on 2016/08/24. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

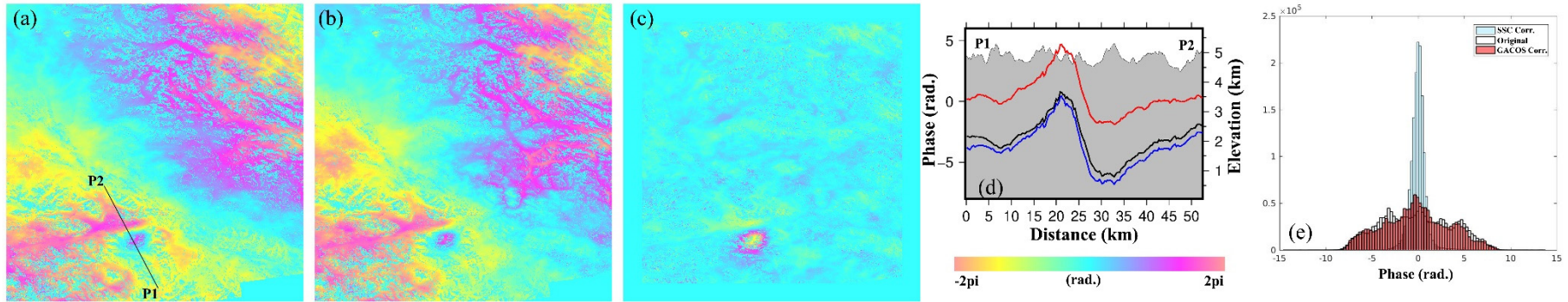


Figure S4 Correction result for the Mw 5.58 earthquake in Zaiduo China on 2016/10/17. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.



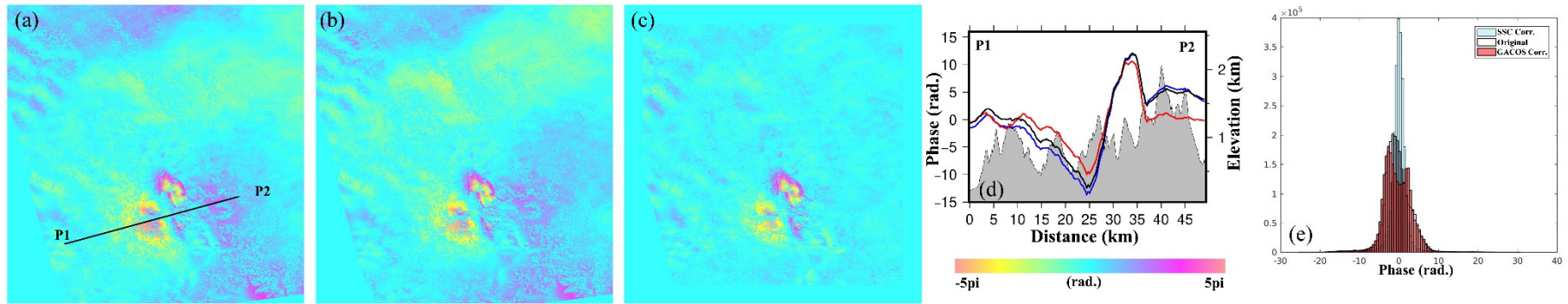


Figure S5 Correction result for the Mw 6.28 earthquake in Visso Italy on 2016/10/26. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

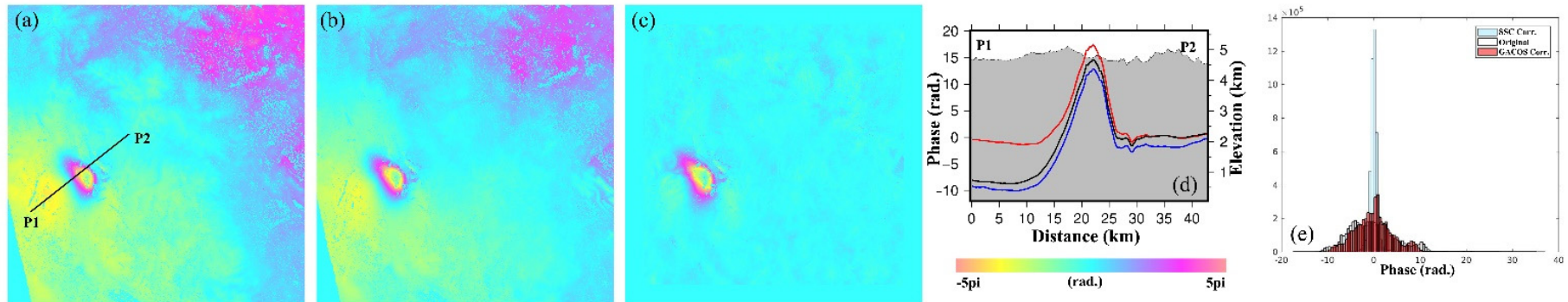


Figure S6 Correction result for the Mw 6.18 earthquake in Huarichancara Peru on 2016/12/01. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

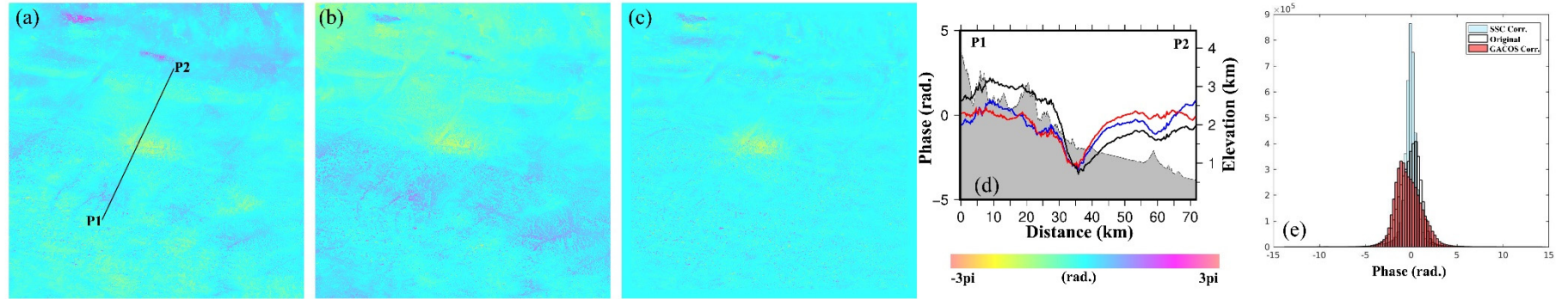


Figure S7 Correction result for the Mw 5.82 earthquake in Shihezi China on 2016/12/08. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

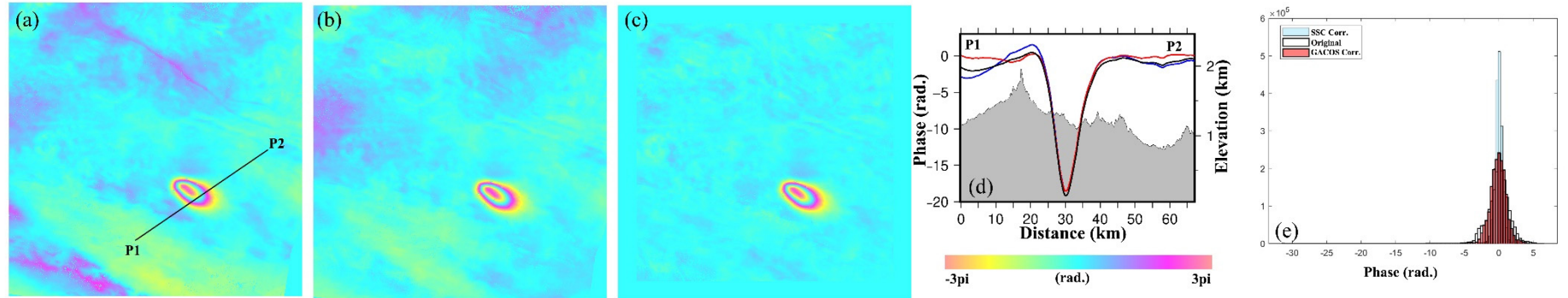


Figure S8 Correction result for the Mw 6.14 earthquake in Torbat-e Jam Iran on 2017/04/05. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.



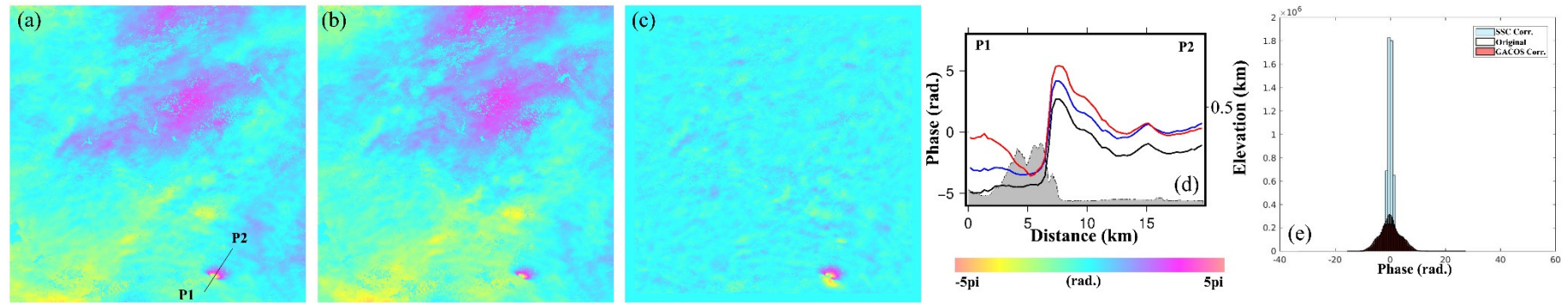


Figure S9 Correction result for the Mw5.58 earthquake in Golmarmara Turkey on 2017/05/27. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

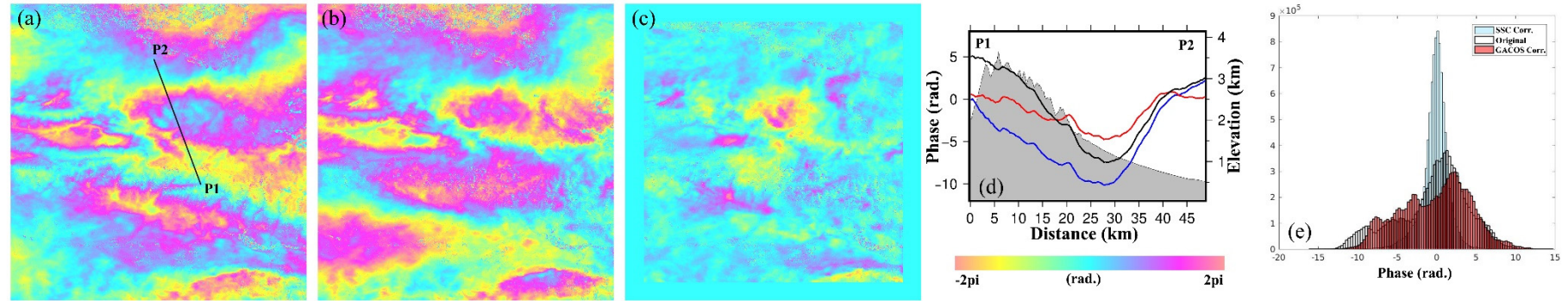


Figure S10 Correction result for the Mw6.19 earthquake in Jinghe China on 2017/08/08. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

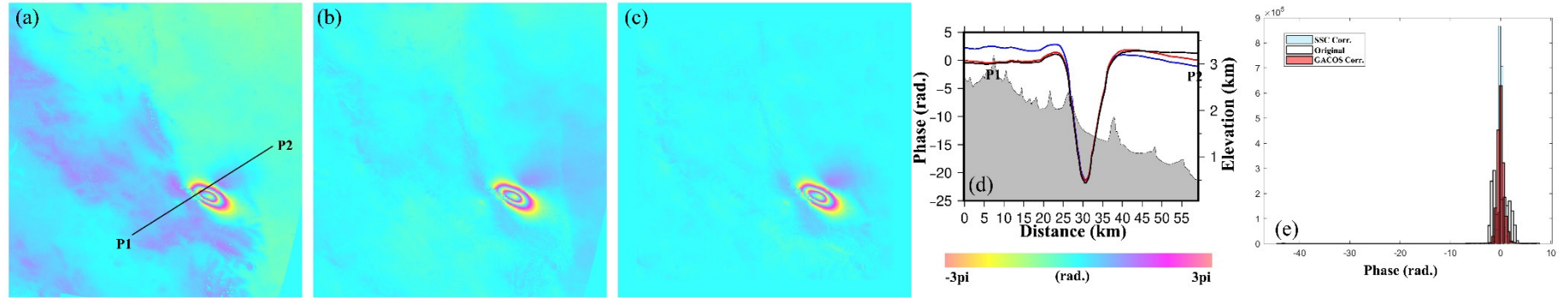


Figure S11 Correction result for the Mw6.08 earthquake in Kerman Iran on 2017/12/01. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

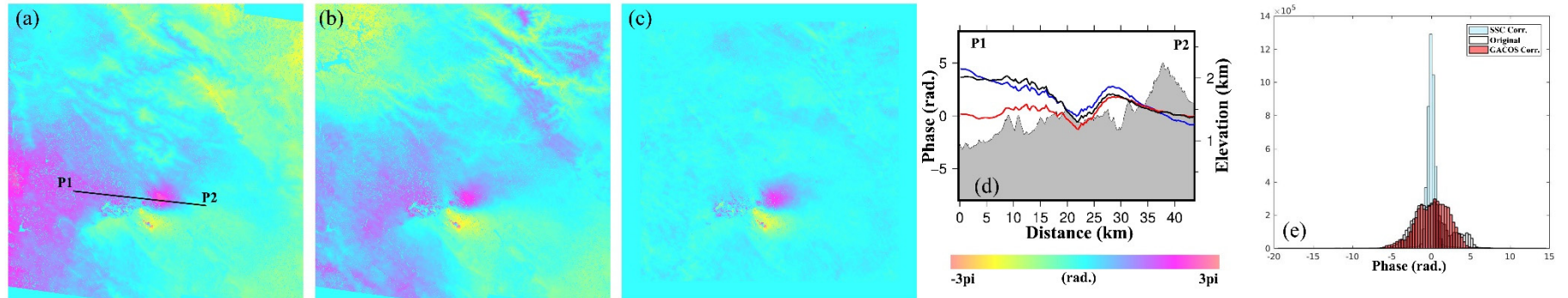


Figure S12 Correction result for the Mw5.98 earthquake in Javanrud Iran on 2018/08/25. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

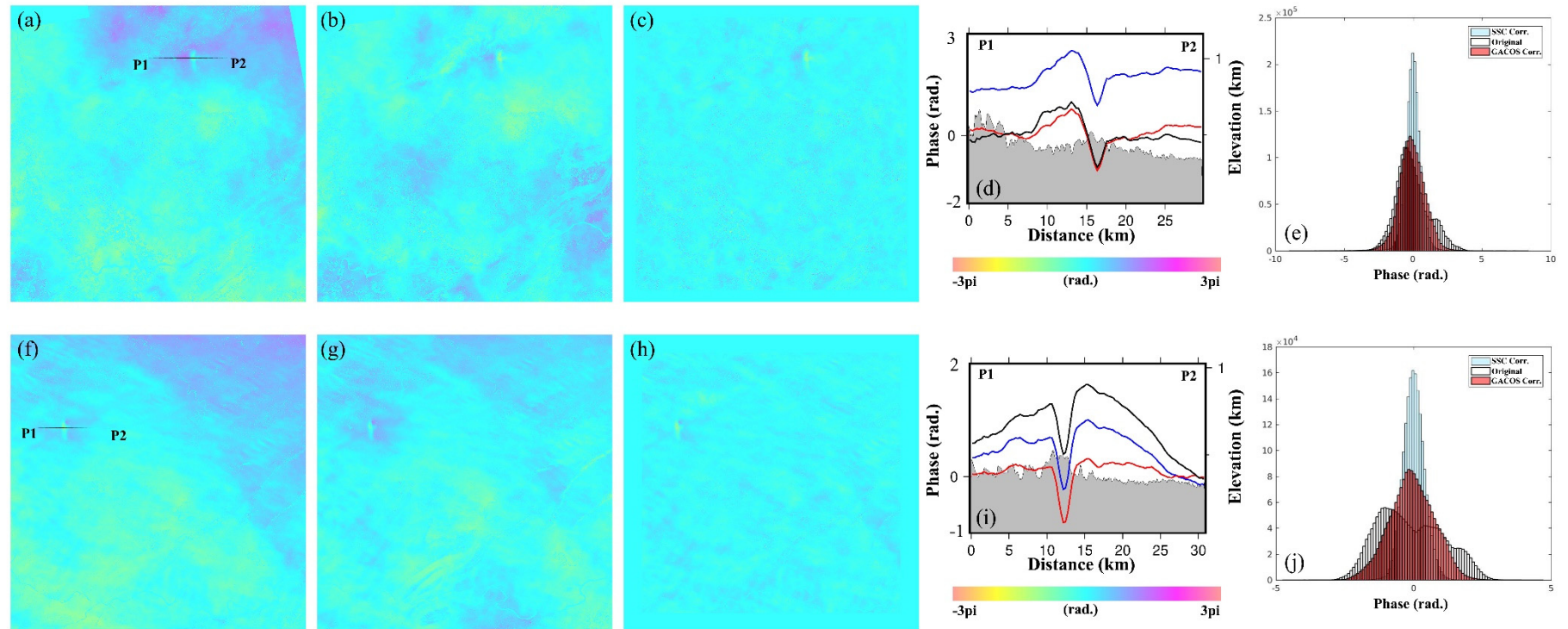


Figure S13 Correction result for the Mw 4.83 earthquake in Yanling China on 2019/02/05. (a-e) denote results from ascending pairs, and (f-j) are for the descending pair. From left to right, they are original-, GACOS corrected-, SSC. corrected- interferograms, phase changes along cross section P1-P2 in (a) or (f), and the histogram of non-deforming pixels before and after correction. In (d) and (i), blue, black and red lines denote corresponding original-, GACOS corrected-, SSC. corrected- result respectively.



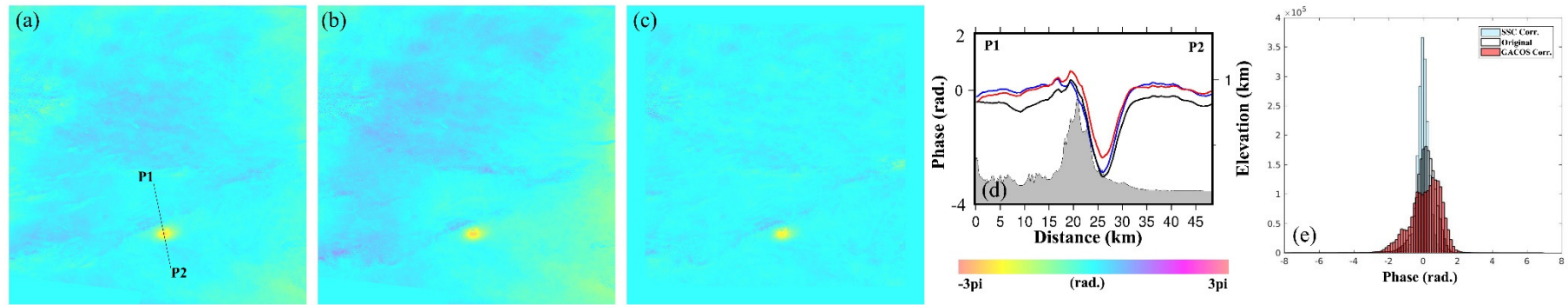


Figure S14 Correction result for the Mw5.55 earthquake in Kasina Croatia on 2020/03/22. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

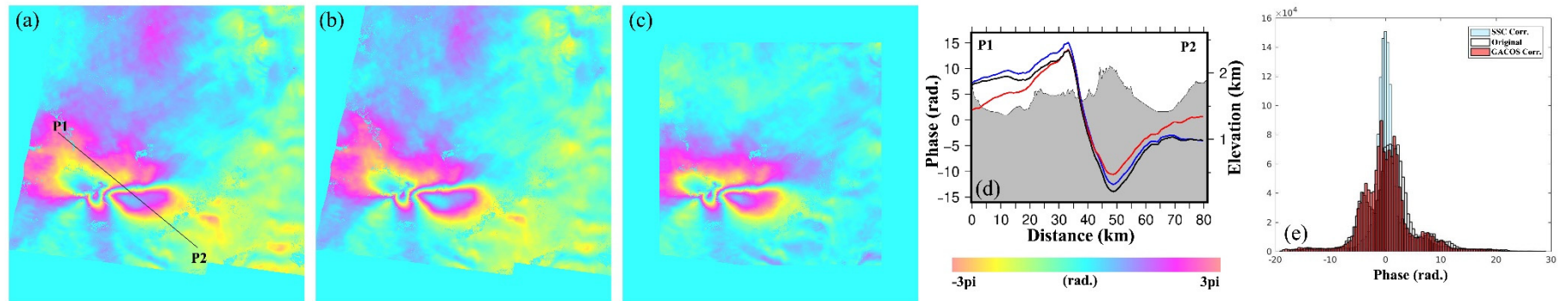


Figure S15 Correction result for the Mw6.44 earthquake in Monte Cristo Range America on 2020/05/15. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

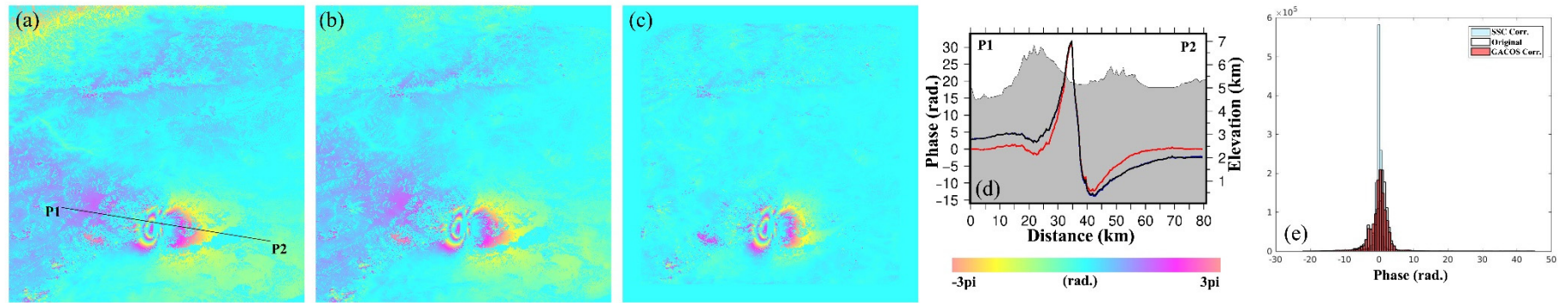


Figure S16 Correction result for the Mw6.28 earthquake in Hotan China on 2020/06/25. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

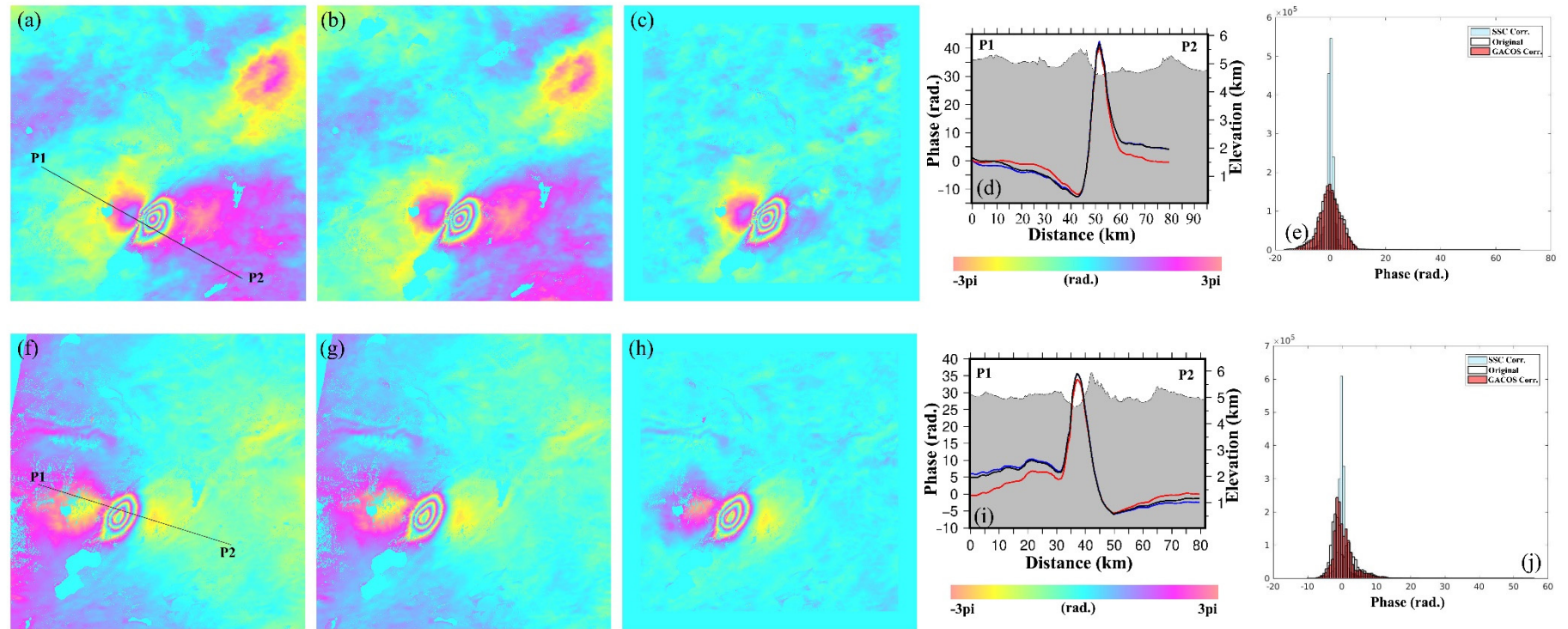


Figure S17 Correction result for the Mw 6.36 earthquake in Western Xizang China on 2020/07/22. (a-e) denote results from ascending pairs, and (f-j) are for the descending pair. From left to right, they are original-, GACOS corrected-, SSC. corrected- interferograms, phase changes along cross section P1-P2 in (a) or (f), and the histogram of non-deforming pixels before and after correction. In (d) and (i), blue, black and red lines denote corresponding original-, GACOS corrected-, SSC. corrected- result respectively.



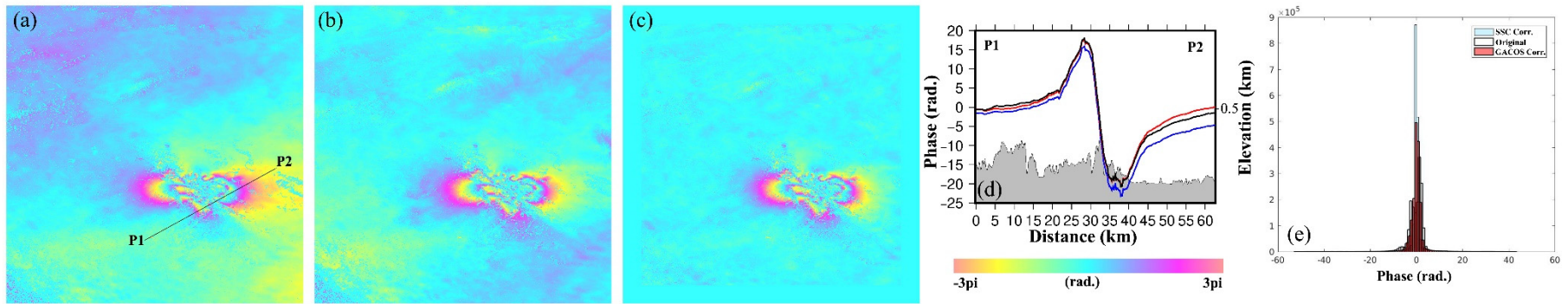


Figure S18 Correction result for the Mw6.48 earthquake in Petrinja Croatia on 2020/12/29. (a) to (c) are original-, GACOS corrected-, SSC. corrected-interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected-result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

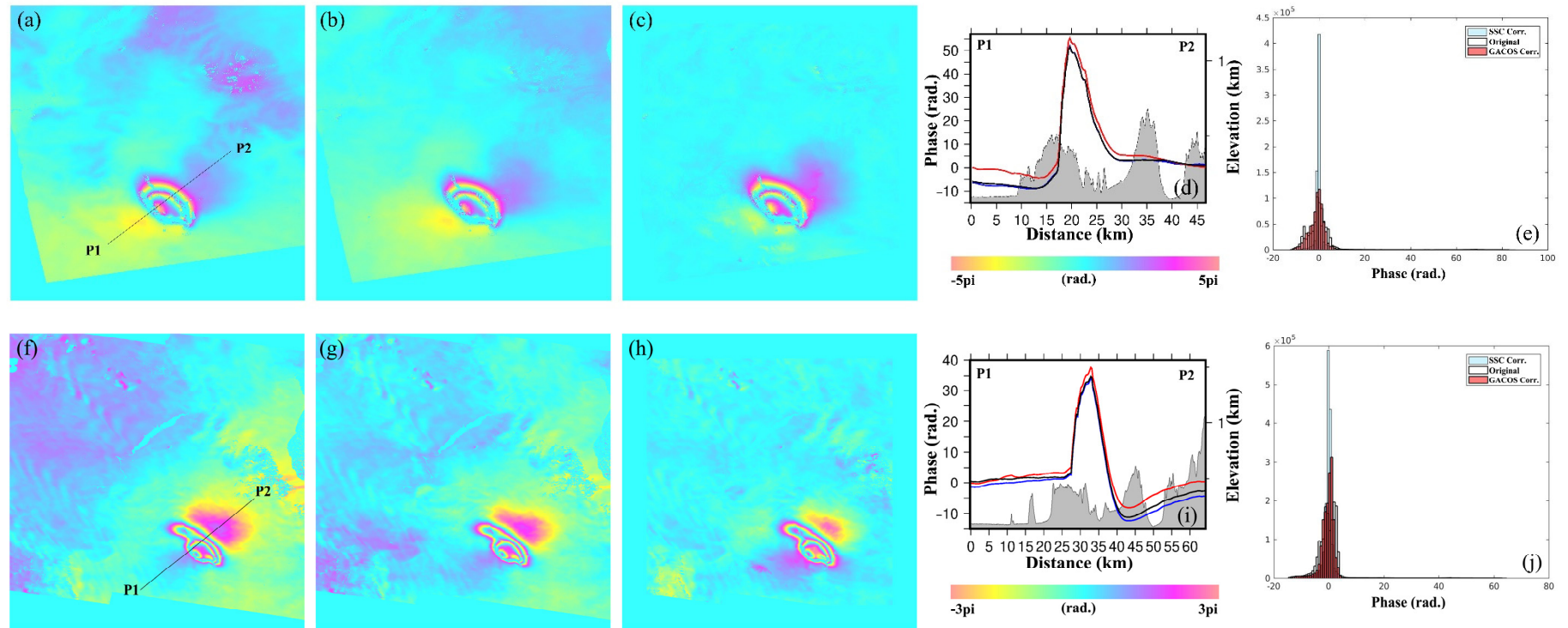


Figure S19 Correction result for the Mw 6.39 earthquake in Tyrnavos Greece on 2021/03/03. (a-e) denote results from ascending pairs, and (f-j) are for the descending pair. From left to right, they are original-, GACOS corrected-, SSC. corrected- interferograms, phase changes along cross section P1-P2 in (a) or (f), and the histogram of non-deforming pixels before and after correction. In (d) and (i), blue, black and red lines denote corresponding original-, GACOS corrected-, SSC. corrected- result respectively.

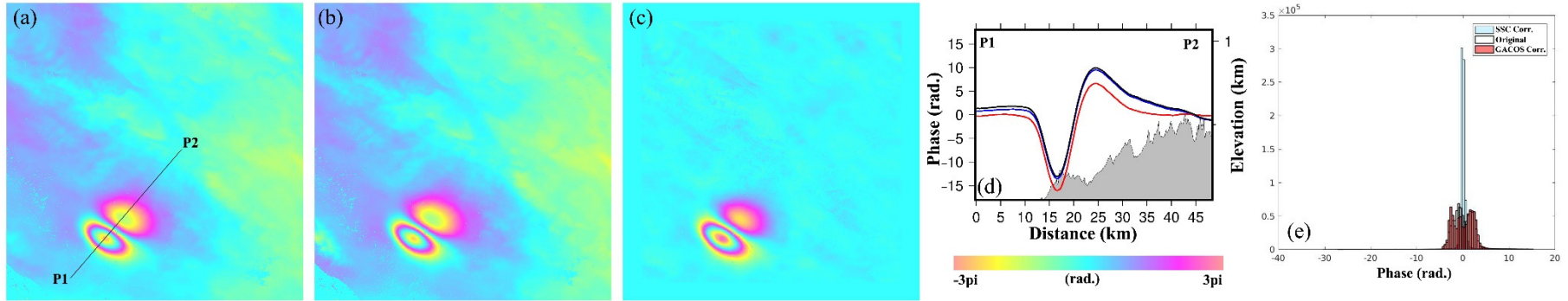


Figure S20 Correction result for the Mw6.10 earthquake in Bandar Iran on 2021/04/18. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.

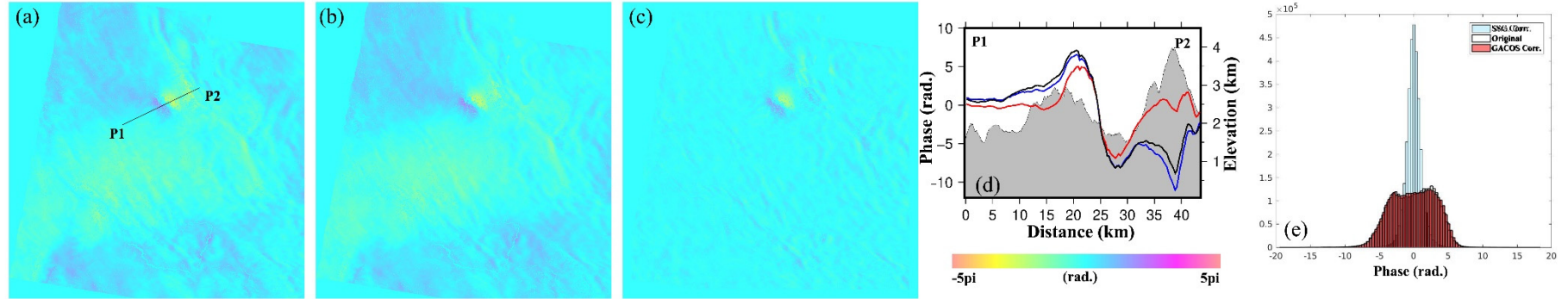


Figure S21 Correction result for the Mw6.09 earthquake in Dali China on 2021/05/21. (a) to (c) are original-, GACOS corrected-, SSC. corrected- interferograms. (d) is the phase changes along cross section P1-P2 in (a), where blue, black and red lines denote original-, GACOS corrected-, SSC. corrected- result respectively. (e) is the histogram of (a-c) after masking the main co-seismic zone.