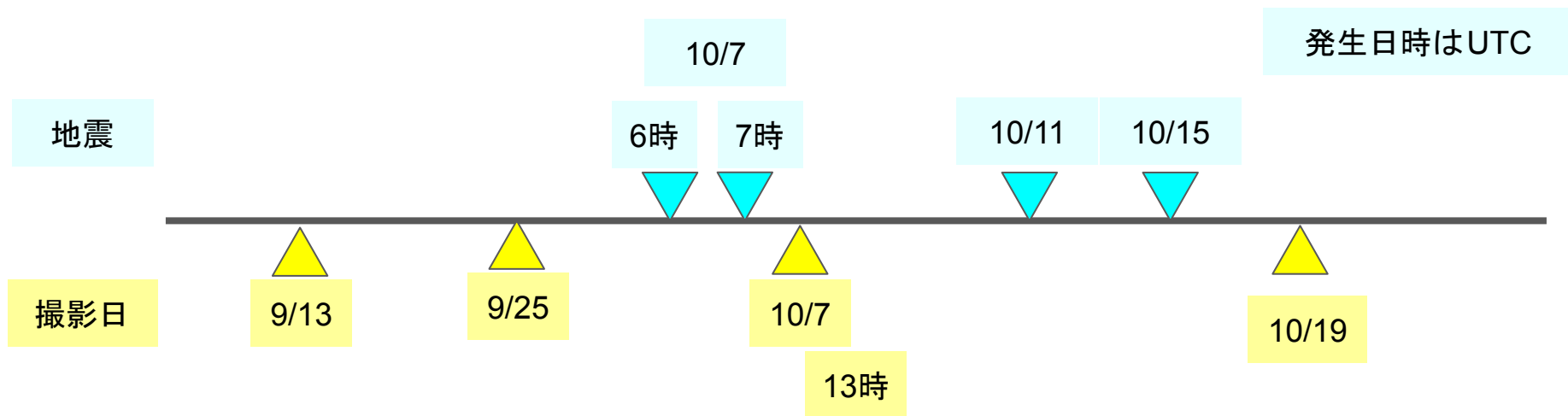


2023年発生のアフガニスタン地震の干渉SAR解析結果

2023/11/07

四国CX研究会 衛星点群分科会

アフガニスタンにて発生した2023年10月地震と干渉SAR衛星撮影日 (地震発生時刻と衛星撮影日の関係)



①M 6.3 - 33 km NNE of Zindah Jān, Afghanistan

2023-10-07 06:41:03 (UTC)34.599°N 61.931°E14.0 km depth

②M 6.3 - western Afghanistan

2023-10-07 07:12:50 (UTC)34.572°N 61.882°E10.0 km depth

③M 6.3 - western Afghanistan

2023-10-11 00:41:56 (UTC)34.557°N 62.045°E9.0 km depth

④M 6.3 - 30 km NNW of Herāt, Afghanistan

2023-10-15 03:36:00 (UTC)34.609°N 62.112°E6.3 km depth

出典

1. 地震に関する情報

USGSの/earthquakes mapより(<https://earthquake.usgs.gov/earthquakes/map/>)

①2023/10/7(UTC6時) <https://earthquake.usgs.gov/earthquakes/eventpage/us6000ldpg/executive>

②2023/10/7(UTC7時) <https://earthquake.usgs.gov/earthquakes/eventpage/us6000ldpm/executive>

③2023/10/11 <https://earthquake.usgs.gov/earthquakes/eventpage/us6000len8/executive>

④2023/10/15 <https://earthquake.usgs.gov/earthquakes/eventpage/us6000lfn5/executive>

出典

2. 干渉SAR

—1. 衛星画像(Sentinel-1@ESA)

①地震前(UTC 2023/09/13)

S1A_IW_SLC__1SDV_20230913T135443_20230913T135510_050310_060E97_F6A5

②地震前(UTC 2023/09/25)

S1A_IW_SLC__1SDV_20230925T135443_20230925T135511_050485_06148A_9151

③地震後1(UTC 2023/10/07)

S1A_IW_SLC__1SDV_20231007T135443_20231007T135511_050660_061A89_E9E9

④地震後2(UTC 2023/10/)

S1A_IW_SLC__1SDV_20231019T135443_20231019T135511_050835_062084_CC56

出典

2. 干渉SAR

一2. 干渉SAR解析結果

・InSAR product processed by ASF DAAC HyP3 2023 using GAMMA software]. Contains modified Copernicus Sentinel data 2023, processed by ESA.

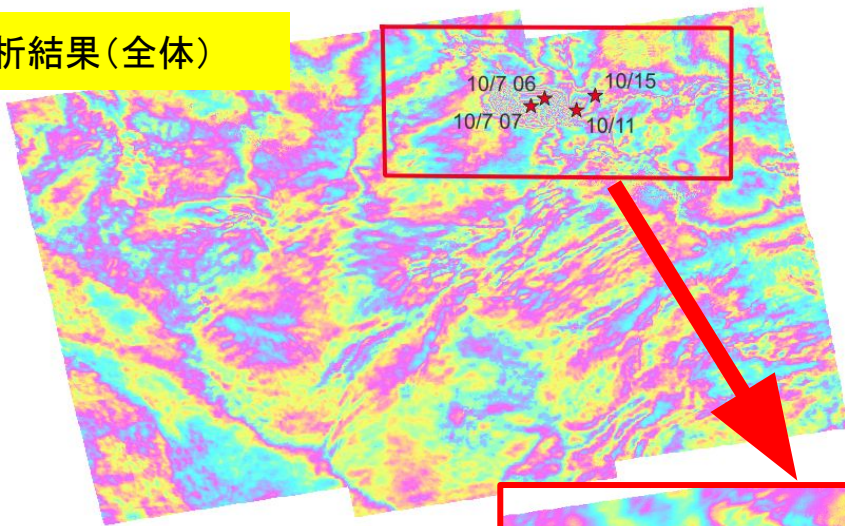
・ASF DAAC HyP3 2023 using the hyp3_gamma plugin version 6.3.4 running GAMMA release 20230712. Contains modified Copernicus Sentinel data 2023, processed by ESA.

本発表資料は上記結果に加筆

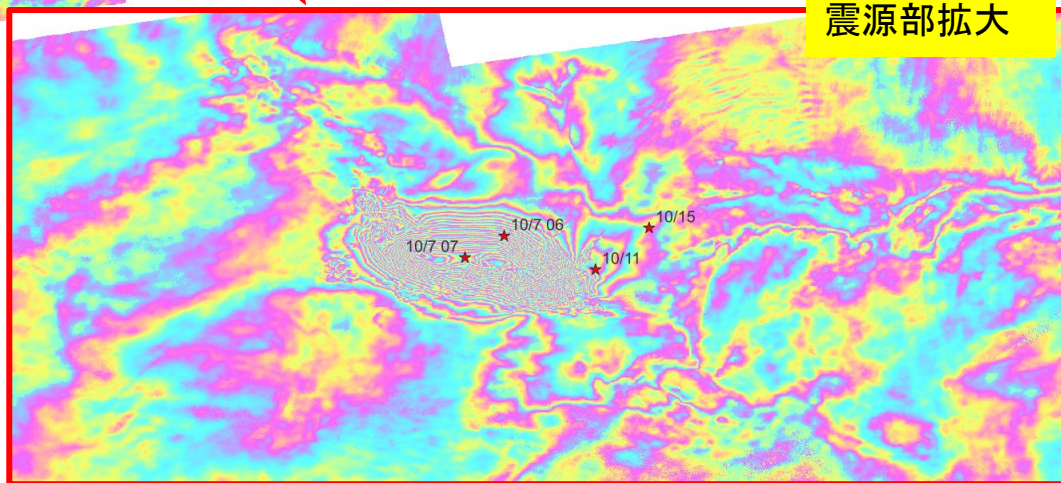
ASF DAAC HyP3 2023での 干渉SAR解析結果

結果(全体)

干涉SAR解析結果(全体)

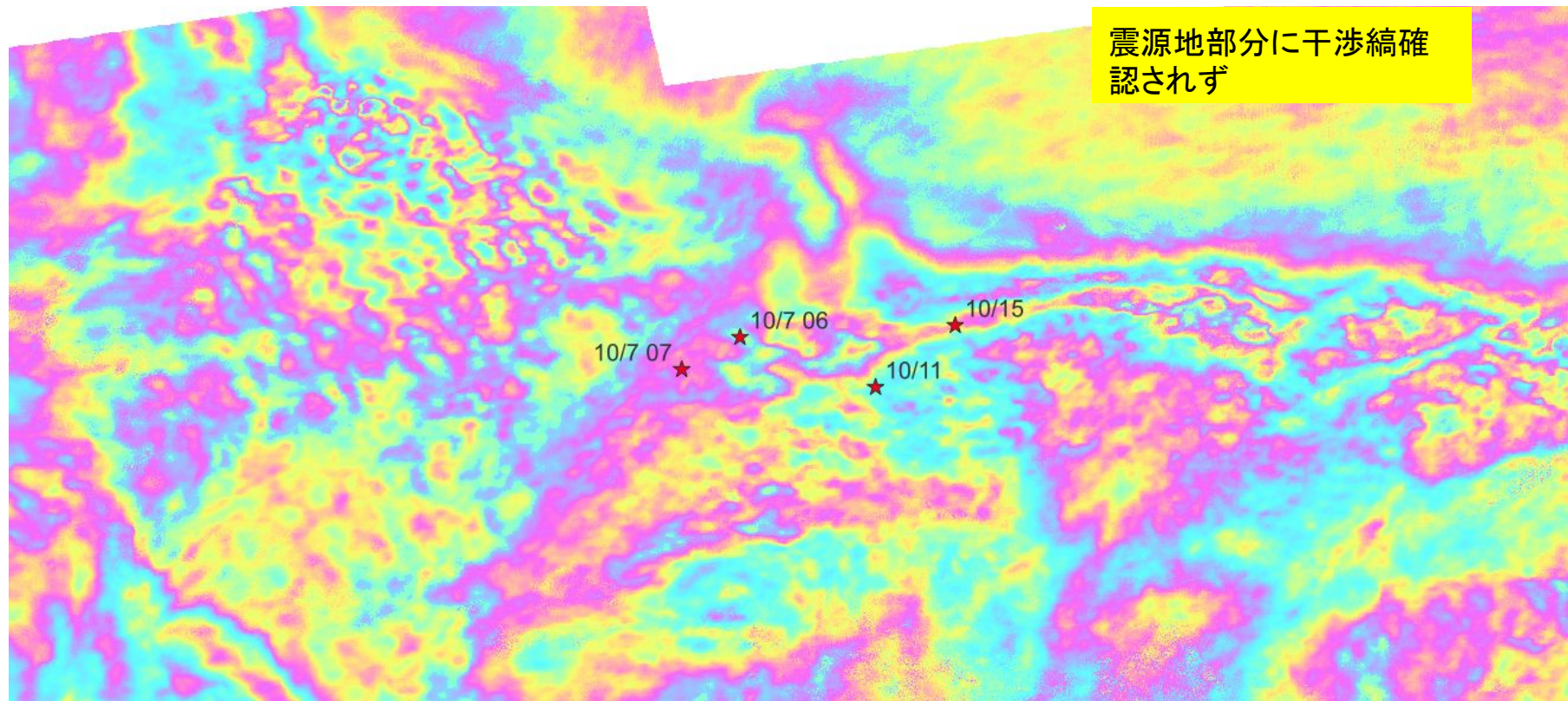


震源部拡大



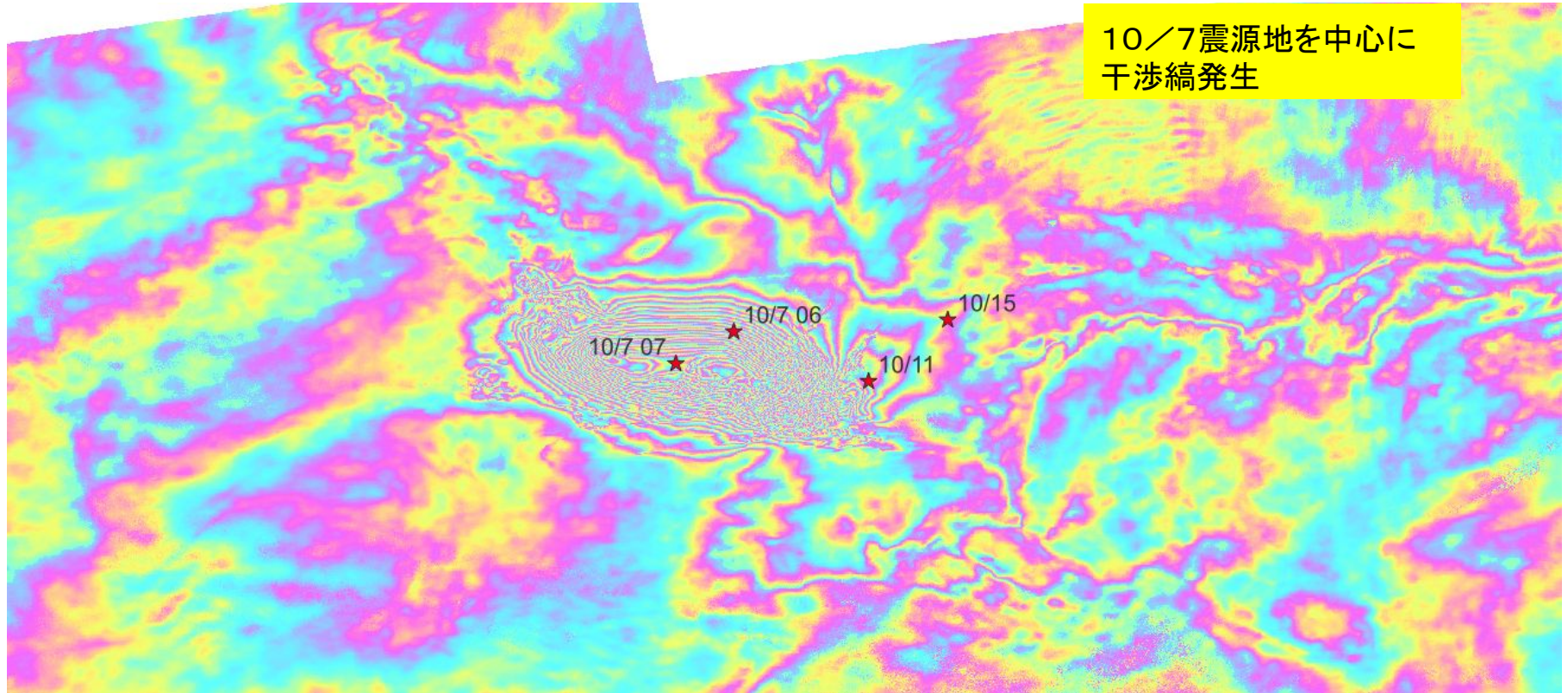
震源部結果

地震前2回(9/13vs9/25)



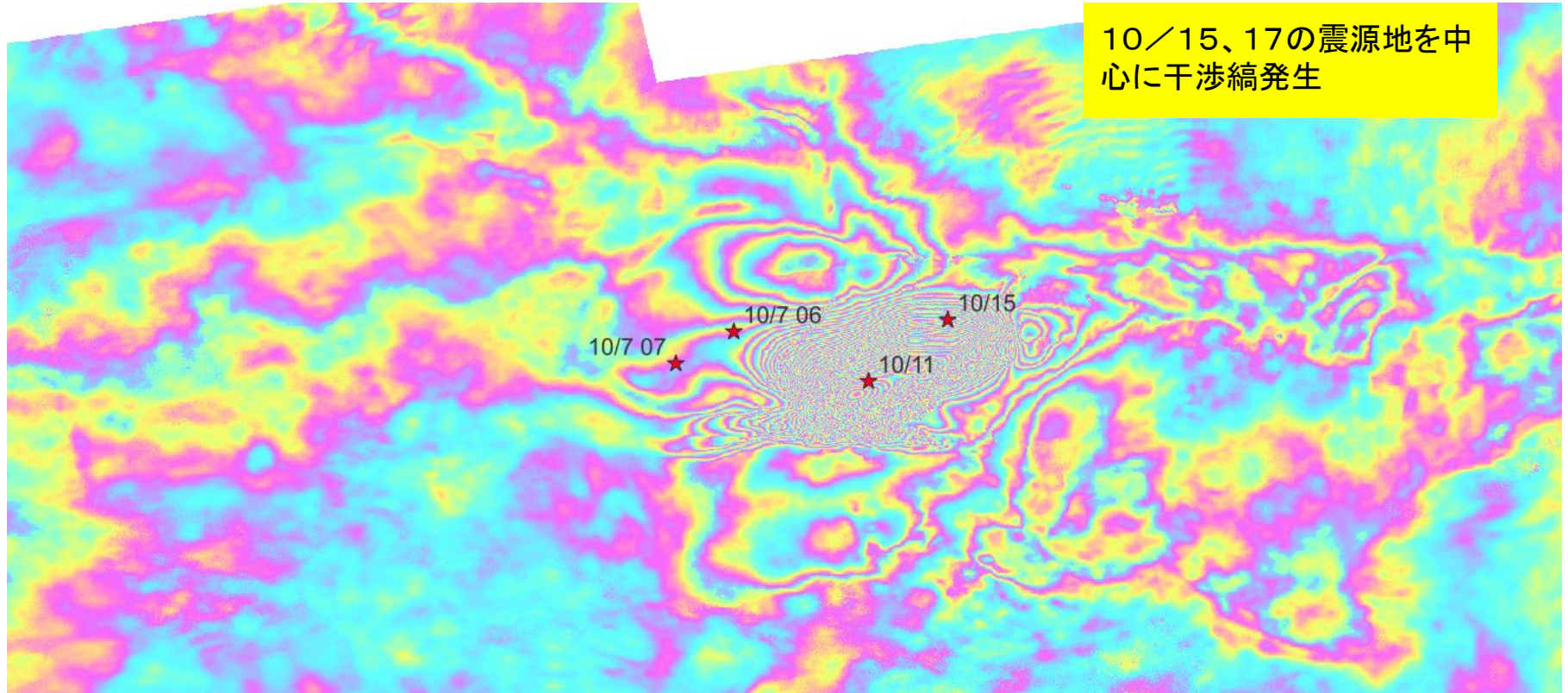
震源地部分に干渉縞確認されず

10/7の地震前後 (9/25vs10/7)



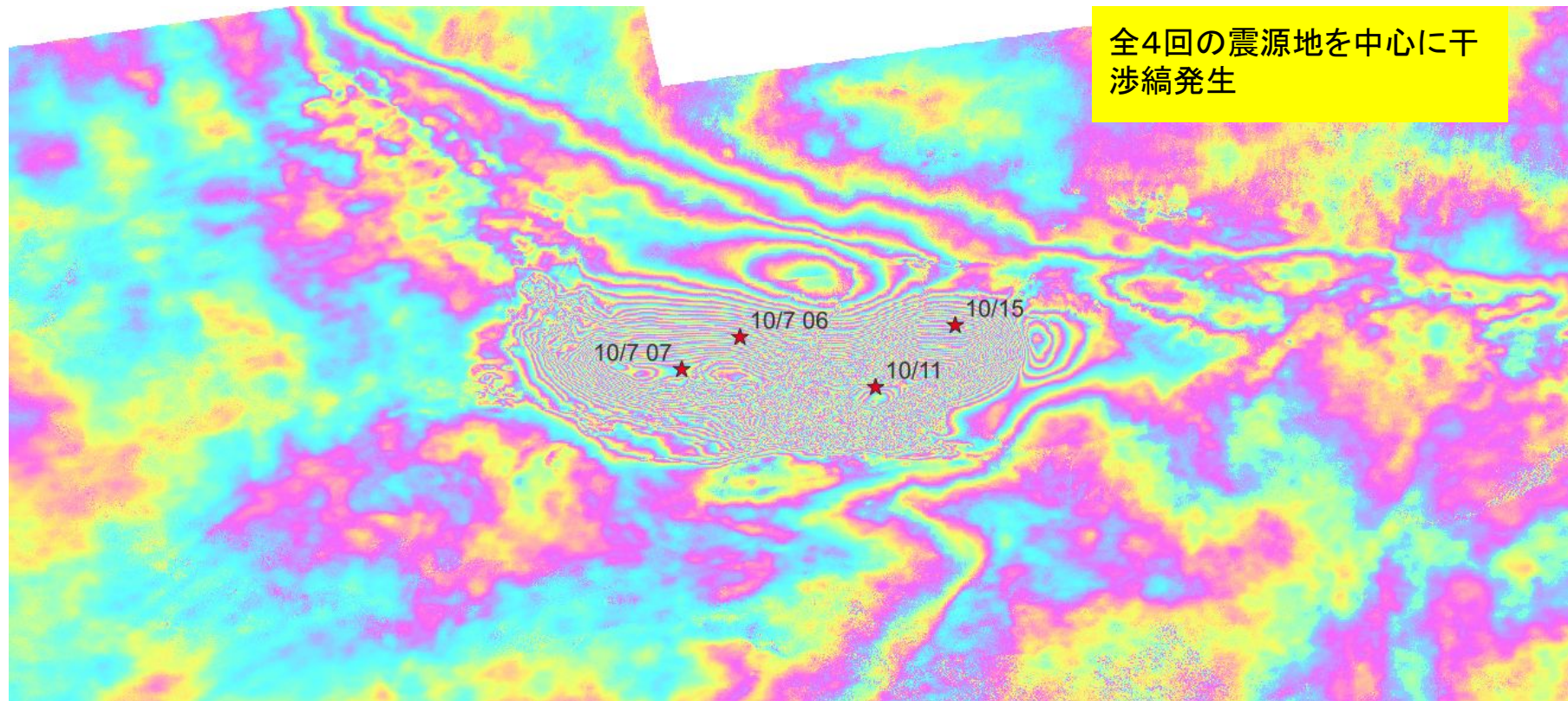
10/7震源地を中心に
干渉縞発生

10/11・15の地震前後(10/7vs10/20)



10/15、17の震源地を中心
に干渉縞発生

全地震の発生前後(9/25vs10/19)



全4回の震源地を中心に干渉縞発生