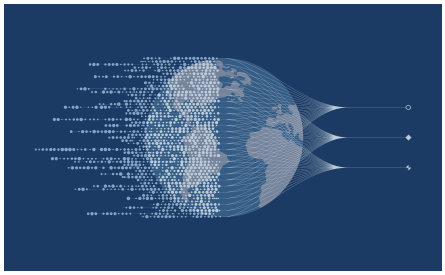

ID: **P3.5-365** Type: **E-poster**

Analysis of the 6 February 2023 Kahramanmaraş Earthquakes Using CTBTO Arrays

On February 6, 2023, at 01:17 UTC and 10:24 UTC, two devastating earthquakes with magnitudes of Mw 7.7 and Mw 7.6 struck, with epicenters located in Pazarcık (Kahramanmaraş) and Elbistan (Kahramanmaraş), respectively. These earthquake couples are one of the most destructive earthquakes occurred in recent history affecting 11 provinces in Turkey's Southeast region and causing more than 53000 casualties in Turkiye. Earthquakes cause a total rupture length of 300 km along the East Anatolian Fault Zone. These two main events were also recorded by infrasound stations of the International Monitoring System (IMS) under the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), at distances ranging between 2000–3000 kilometers. The analysis of these events was conducted with the DTK-GPMCC and Geotool applications of NDC-in-a-Box—a software suite developed by the Provisional Technical Secretariat (PTS) for use at National Data Centers (NDCs).

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Session Classification: P3.5 Analysis of Seismic, Hydroacoustic and Infrasound Monitoring Data

Track Classification: Theme 3. Monitoring and On-Site Inspection Technologies and Techniques: T3.5 Analysis of Seismic, Hydroacoustic and Infrasound Monitoring Data