	Workshop CRUST 2019 - Abstract Form
Title of Abstract	First results of CISA, the new Central Italy Seismic Array
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Abstract (max. 250 words)	During the last decades, seismic monitoring experienced important advances by introducing small aperture arrays and dense seismic networks equipped with high-dynamic-range instrumentation. This new recording reality allowed to lower significantly the monitoring threshold, to identify in quasi real time active seismo-tectonic structures and to reveal information about the seismic source and its rupture dynamics. The application of array techniques, as beamforming and f-k analysis use the coherence properties of the recorded wavefield for increasing the S/N-ratio, to determine back-azimuth and apparent velocity of the incoming wavefield and to automatically locate the seismic events of small magnitudes. We realized the first permanent small aperture array installation in Italy, called CISA (Central Italy Seismic Array) composed of 9 three-component seismic sensors installed at interstation distances from 100 - 500m and a maximal extension of 1000m. CISA's circular configuration and its geographical position is aimed to monitor the microseismicity of Central Italy at a local and regional range, including the epicentral area of the 2016/17 seismic sequence, as well as the geothermal areas in the western sector. CISA's challenges are to decrease the detection threshold of the microseismicity, to identify active faults in Umbria by analysis of the microseismicity and to study in detail the rupture dynamics of moderate earthquakes, by using source scan algorithm. Seismic data are transmitted in real-time to the data center of SARA-electronic (Perugia) by ordinary 4G-LTE router and then forwarded to the observatories of Arezzo and Munich by using seedlink protocol.
Type of presentation (Oral or Poster)	Poster