AdriaArray

AdriaArray logo suggestion by Claudia Piromallo and Hana Kampfová-Exnerová

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AdriaArray Seismic Network – status in April 2023

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poster X2.137

https://orfeus.readthedocs.io/en/latest/adria_array_main.html

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EPOS EUROPEAN PLATE OBSERVING SYSTEM

Orfeus

Sharing is encouraged

- permanent BB >= 60s
- permanent 40s <= BB < 60s (in fact Trillium 40s only)
- permanent 30s (mostly Guralp)
- PACASE (used for AdriaArray)
- permanent SP+BB < 30s +Acc to be potentially upgraded by temporary BB >= 30s
- permanent sensor type not reported
- unequipped spots
- permanent SP+BB < 30s +Acc not negotiated for upgrade yet
- permanent SP+BB < 30s +Acc not for upgrade
- planned permanent station
- mobile West
- mobile Center
- mobile North
- mobile East
- mobile Southeast

- not assigned
- Uni Jena, Germany
- GIPP, GFZ, Germany
- Karlsruhe IT, Germany
- NIEP Pool, Romania
- Kosovo Pool
- Montenegro Pool
- Croatia Seism. Survey
- INGV Bologna, Italy
- ETH Zurich, Switzerland
- OGS, Italy
- Resif–Sismob, France
- Barcelona, Spain
- Uni Wien, Austria
- Uni Munich, Germany
- Uni Bochum, Germany
- Uni Twente, the Netherlands
- EPSS, Hungary
- Uni Kiel, Germany
- Norwegian Pool + UniZagreb
- Uni Oulu, Finland
- Unis + PAS, Poland
- Poland ---> Ukraine
- Uni Aarhus, Denmark
- Uni Helsinki, Finland
- IRSM Prague + Uni Helsinki
- IG CAS Prague, CZ
- permanent BB stations full triangles: operating empty triangles: planned

Permanent stations which are / are not connected to EIDA. This maps shows only BB stations (>= 30 s), so-called backbone, to see, what stations need to be connected to EIDA to make AdriaArray operational.

All permanent stations are in red, all temporary in light green. Circles around mobile stations show the mobile pools suggested.

AdriaArray backbone uses nine network codes, color-coded in the map below. The networks are assigned to different EIDA nodes, where the data is archived.

Map showing the member institutions, the institutions that has applied and their membership is pending, and institutions interested as possible candidates for the membership. Some institutions joined the AdriaArray initiative together as one group, joined separately as different members. EIDA nodes are also shown. In the moment, AdA Seismology Group has 42 members from 49 institutions. 5 memberships are pending and there are 6 candidates. Altogether, 63 institutions from 29 countries are interested in AdriaArray. It represents almost 400 researchers, technicians and students involved.

The mobile station distribution was done in GoogleEarth. Permanent stations were imported to the maps and circles of 30 and 40 km in radius corresponding to the mobile station deployment were added. We tried to place the stations in the centers of the mobile pools as possible to ensure SP/SM data. We also tried to place them, so that the scouting is minimized later in the field. As there was no strict limit of what was the corner period of the backbone, the virtual "deployment" of the mobile stations was done so, that we were successively replacing the "worst" (most SP) stations with the "best" (long-period BB). As a result, we ended up consuming all the mobile stations at hand having replaced as many SP as possible. This gave us the best "quality" of the given coverage in the given subgroup. The lowest corner period of each subgroup thus differs. In the subgroup EAST and partly in the subgroup CENTER, there are several stations with 30 s corner period. In the subgroup NORTH, there are only stations of 40 s and longer corner period. This obviously trades off with the station spacing considered. If, for example, the "40 km" station coverage is considered for subgroup CENTER, it is also almost all covered with >= 40 s sensors. As, however, for this subgroup the stations spacing used was "30 km", some 30 s sensors are popping up in the respective coverage maps.

Besides using GMT for plotting the various properties of the stations, the same can be shown also in GoogleEarth. The *.kml files are generated by a Python script from the station inventories.

In addition to the backbone, we suggested several local experiments. These are to be considered as a local densification of the backbone, either with BB or SP/SM (or a combination) stations in the regions of particular interest. So far, we have seven suggestions and the negotiation is ongoing.

The table on the right shows which mobile pool goes to which region including the number of stations to be deployed. The table is split by the five subgroups. Cells with blue background denote the mobile pools already deployed.

All information about the AdriaArray Seismic Network can be found at the GitHub repository at https://github.com/PetrKolinSky/AdriaArray. Scan the QR code.

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