**NaNDC**

**Quick Installation:**

We recommend users to install NaNDC by conda.

conda env create -f envs.yml

conda activate nandc

**Run example:**

bash ./run\_nandc.sh

**Parameters:**

Three parameters must be specified: --event\_list; --data\_dir; --vmodel

**--event\_list**

e.g., ./nandc-v0.0.1/example/events.list

Path of **file** contains the location and/or magnitude of earthquakes for inversion.

**4 or 5 Columns, separated by blank (evid evlo evla evdp [mag])**

e.g., 20161128065337.920 -117.248145 54.343429 3.269 3.0

evid: event id, this id should same as the filename in data\_dir

evlo: event longitude

evla: event latitude

evdp: event depth

mag: event magnitude [optinal; if mag is provided, NaNDC will searching best-fitting magnitude ]

**--data\_dir**

e.g., ./nandc-v0.0.1/example/data/

Path of **folder** with data files for all events in event\_list. The filename of data file should be evid.dat. (evid is the para in event\_list, e.g., 20161128065337.920.dat).

**9 Columns, separated by “,”**

(stid, stlo, stla, weight\_polarity, polarity, weight\_p-amplitude, p-amplitude, weight\_S/P, S/P\_ratio)

stid: staion id [knetwk+kstnm]

stlo: station longitude

stla: station latitude

weight\_polarity: weight for P-wave first motion [0-1]

polarity: P-wave first motion [positive 1; negative -1; no observation 0]

weight\_p-amplitude: weight for P-wave amplitude

p-amplitude: P-wave amplitude, **Note the unit should be** **meter (displacement)**

weight\_S/P: weight for S/P amplitude ratio

S/P\_ratio: log10(S/P amplitude ratio), **Note take the log of 10.**

**--vmodel**

e.g., ./nandc-v0.0.1/example/toc2me.nd

Path of 1-D velocity model file.

**--save\_dir**

e.g., ./nandc-v0.0.1/example/invs/

Path of folder for saving inverted results