The effect of structure on the mislocation vectors of Naqu and Hetian array and the SASC for Naqu and Hetian array

Chunyue Hao
The configuration of the Naqu array in western China.

Array response of Naqu
the 125 teleseismic events that occurred in 2007 and 2008 in this paper

Mislocation vectors of the 125 events. The slowness from 0 to 20 sec =° with 4 sec =° per tick is displayed on the radial axis; the back azimuth is shown clockwise from 0 to 360°. The heads of the vectors, that is, the open circles, represent the observation values; the tails point to the theoretical values.
(a) observation azimuth and (b) slowness residuals as a function a theoretical back-azimuth. the sign of back-azimuth and slowness residuals changed at about 100° and 150° respectively.
(a) Slowness component of the mislocation vectors of the Naqu array. The line of separation is at about 180° (b) Back-azimuth component of the mislocation vectors of the Naqu array. The line of separation is at about 90°.
Figure 4. (a) Slowness components of the mislocation vectors of the GRF array. The line of separation is at approximately 95°. (b) Azimuth components of the mislocation vectors of the GRF array. The line of separation is at approximately 10°.
图 1(a) 震中分布及面波射线路径; (b) 观测台站的位置及面波射线路径的分布
Accord with Chen Guoying
F-K analysis and Mean slowness Correction method

F-K analysis of Naqu array for the events occurred in May 12, 2008, the white circle is the result of F-k analysis, the white diamond is the location result from China Earthquake Network Center

\[
\bar{S}_{oc} = \sum_{i=1}^{n} \left( \frac{\bar{S}_{oi} - \bar{S}_{ti}}{n} \right)
\]
the SASC model for Naqu. The slowness from 0-20s/deg with 4 s/° per tick is displayed on the aadal axis; the back-azimuth is shown clockwise from 0 to 360°. Circles represent observation values and dots represent theory ones. b the SASC model for Hetian array, the symbols are the same as a.
The histograms of back-azimuth and slowness residuals for Naqu array before and after SASC. (a) azimuth residuals before SASC; (b) slowness residuals before SASC; (c) azimuth residuals after SASC; (d) slowness residuals after SASC.
Comparison of location results before and after SASC: (a) Back-azimuth residual comparison for Naqu; (b) slowness residual comparison for Naqu
Hetian array

The configuration of the Hetian array in western China.

Array response of Hetian array
155 events used in the correction

Mislocation vectors before SASC

Correction model

Mislocation vectors after SASC
Histograms before SASC, a: azimuth; b: slowness

Histograms after SASC, a: azimuth; b: slowness
CONCLUSIONS

Naqu array:
- Dip: N48°-58°E

Hetian array:
- Dip: N70°-90°W

LZDM array:
- Dip: N48°-58°E
Several papers concluded the fact that the low velocity layer exist in the Tibetan Plateau universal.

Two arrays locate at the edge of Tibet Plateau show different dipping layers, so are there many kinds of dipping layers below the edges of Tibetan Plateau, what kind of them, what’s their dip, strike, and dip angle?

So what’s the relation of them
Thanks!