Supporting Information for

**Complex seismic anisotropy and mantle dynamics beneath Turkey**

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**Contents of this file**

SI 1 Table \_S1.txt

SI 2 Table\_S2.txt

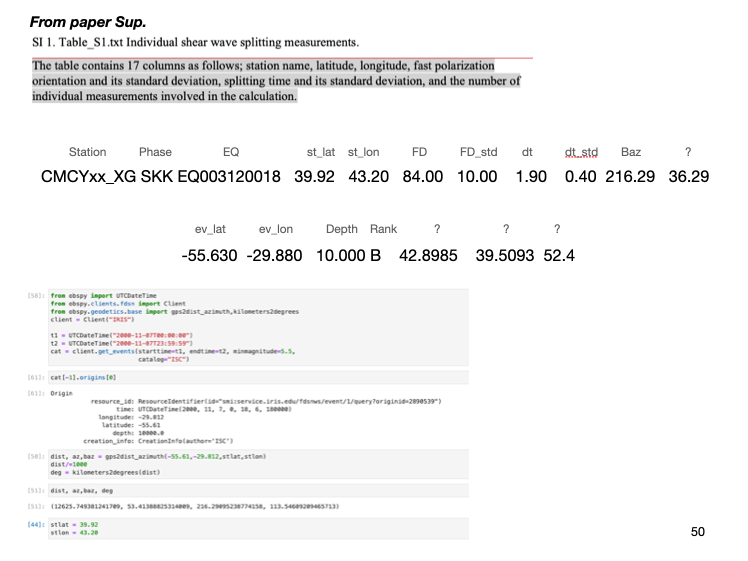
SI 3 Table\_S3.txt

SI 4 Figures S1 to S6

**Introduction**

This supporting information contains shear wave splitting (SWS), and data for the receiver function beneath Turkey. The resulting database is presented in three forms, including 1) 9084 quality A and B individual SWS measurements from each of the event-station pairs. The measurements are given in the table “Table\_S1.txt”; 2) station averaged SWS measurements which are given in the table “Table\_S2.txt”, and 3) crustal anisotropy measurements given in the table “Table\_S3.txt. This supporting information also contains the plots for the Station-averaged fast orientations stations used in the study, and Azimuthal variations of shear-wave splitting of some example stations that show unsystematic, systematic, and limited variations (unknown layers of an anisotropy) variations of the baczk-aziumth with Φ in the study area.

SI 1. Table\_S1.txt Individual shear wave splitting measurements.



The table contains 17 columns as follows; station name, latitude, longitude, fast polarization orientation and its standard deviation, splitting time and its standard deviation, and the number of individual measurements involved in the calculation.

SI 2. Table\_S2.txt Station-averaged shear wave splitting measurements.

The table contains eight columns as follows; station name, latitude, longitude, fast polarization orientation and its standard deviation, splitting time and its standard deviation, and the number of individual measurements involved in the calculation.

SI 3. Table\_S3.txt crustal anisotropy measurements.

The table contains eight columns as follows; latitude, longitude, fast polarization orientation and its standard deviation, splitting time and its standard deviation, and the number of individual measurements involved in the calculation.