**Supplementary Material for**

**The influence of faulting style on the size-distribution of global earthquakes**

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**Overview**

This file contains Supplementary Figures cited along the main manuscript. See figures captions for a more detailed description.

**Content**

**Fig. S1:** Empirical CDFs for the sum residuals of the Fig. 5B.

**Fig. S2:** *b*-value dependence on rake angle  for different time- selections.

**Fig. S3:** Ternary *b*-value mapping with different number of neighbors.

**Fig. S4:** *b*-depth analysis for Global CMT and ISC-GEM catalogue.

Immagine che contiene mappa, testo

Descrizione generata con affidabilità molto elevata

**Figure S1**. Empirical cumulative density functions (Cdf) for the sum residuals of the Fig. 5B (γ=40°) data with respect to a constant b=1 model (grey) and to S2005 (black) data. The two curves are significantly different at 0.01.

Immagine che contiene testo, mappa

Descrizione generata con affidabilità molto elevata

**Figure S2**. Frames of the *b*-value dependence on rake angle  for different time- selections (1980–2016, ±±± common of depth = 0–50 km). Rows show different periods while columns refer to different  value (showed as a horizontal black error bar centred at λ = -90°). Grey *b*-λ dependence from the original(1980–2004, ±) is in the background. Horizontal grey line refers to mean *b*-value for the specific time- subset. Inset upper panels are the analyses for the second nodal plane.

**Immagine che contiene testo, mappa

Descrizione generata automaticamente**

Figure S3. Ternary *b*-value mapping with different number of neighbours N (from 200 to 1000).

Immagine che contiene testo, mappa

Descrizione generata automaticamente

Fig. S4. Jointed *b*-depth analysis for Global CMT (red) and ISC-GEM catalog (blue) (Storchak et al., 2013, 2015; Di Giacomo et al., 2018), data from 1980-2016 in the first 50 km. *Left, top*: frequency-magnitude distribution of ISC-GEM dataset, Mc (6.1) indicated as a dotted vertical line, overall *b*-value (~0.98) indicated with a solid line. *Left, bottom*: depth distribution (sampling bin 1 km). Right: *b*-value – depth sampling (5 km width windows, *b*-values estimated using Equation (1) with a minimum threshold of 50 events) for ISC-GEM and GCMT dataset. Horizontal dashed lines correspond to the chosen depths for the modeling part (see main text).

References

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