



Corrigendum to "Stress state at faults: the influence of rock stiffness contrast, stress orientation, and ratio" published in Solid Earth, 15, 1047–1063, 2024

Moritz O. Ziegler^{1,2}, Robin Seithel³, Thomas Niederhuber⁴, Oliver Heidbach^{2,5}, Thomas Kohl⁴, Birgit Müller⁴, Mojtaba Rajabi⁶, Karsten Reiter⁷, and Luisa Röckel⁴

¹Technical University Munich, Arcisstraße 21, 80333 Munich, Germany

²Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences, Telegrafenberg, 14473 Potsdam, Germany
³GHJ – Ingenieurgesellschaft für Geo- und Umwelttechnik mbH & Co. KG, Am Hubengut 4, 76149 Karlsruhe, Germany
⁴Institute of Applied Geosciences, KIT, 76131 Karlsruhe, Germany
⁵Institute for Applied Geosciences, TU Berlin, 10587 Berlin, Germany
⁶School of the Environment, University of Queensland, Saint Lucia, Queensland 4072, Australia
⁷Institute of Applied Geosciences, TU Darmstadt, 64287 Darmstadt, Germany

Correspondence: Moritz O. Ziegler (moritz.ziegler@tum.de)

Published: 25 June 2025

In the mentioned article, the sense of rotation of the principal stress axes is not indicated. Therefore, it should be noted that the positive rotation angle described in the article refers to an anticlockwise rotation (Fig. 3).

The rotation of S_1 displayed in Fig. 3 of the article is wrong (clockwise instead of anticlockwise). This is due to an error in the estimation of the orientation vector from the stress tensor. A corrected version of Fig. 3 with the correct sense of rotation is provided below (Fig. 3).

Please note that the rotation angles throughout the article are correct. There is also no change in the colour-coded stress rotation angle in Fig. 3 compared to Fig. 3 from the article.



Figure 3. The stress rotation colour-coded and shown as vectors/lines that indicate the S_1 orientation in the fault core area (Fig. 2c of the mentioned article) dependent on different settings. (a) A basic setting with a fault that is 15° deviated from the orientation of S_1 , a differential stress of 10 MPa, a stress ratio of $R_S = 1.4$, and a rock stiffness contrast of $R_E = 0.4$ (E = 16 GPa in the fault core and E = 40 GPa in the host rock). (b) $R_S = 1.2$. (c) Differential stress increased to 30 MPa and $R_S = 1.2$. (d) Differential stress increased to 30 MPa with the same S_2 magnitude as in (a), $R_S = 1.75$. (e) $R_E = 0.7$. (f) Deviation of 45° between fault strike and the S_1 orientation.