

# List of bigger and smaller corrections in articles I've been involved in

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## A simulation study of the impact of fracture networks on the co-production of geothermal energy and lithium

*Geothermal Energy*, 2025. <https://doi.org/10.1186/s40517-025-00356-3>

(The corrections are mostly due to the co-authors going berserk with editing my original draft)

- In the description of the article structure, ‘Sect. Simulations of evolution of lithium concentration<sup>118</sup> and temperature’ should be ‘Sect. Simulations of lithium concentration and temperature’. Also, the section title ‘Simulations of evolution of lithium concentration and temperature’ should be ‘Simulation results’ to be more readable.
- The first sentence in Sect. *Mathematical model and numerical approach* should be ‘We consider a fractured porous medium, where, following Martin et al. 2005, fractures are ...’
- In the description of the matrix energy conservation equation (Eq. 4), ‘effective’ should be ‘average’. (Not a typo, but I find ‘average’ more understandable, since the parameters in question are porosity-weighted averages, while the term ‘effective’ is used in different settings, with its meaning not always clear to me; the co-authors went behind my back here.)
- In the text below the definition of  $W_c$  and  $W_T$ , ‘ $PX$  curves’ should be ‘ $PX$  lines’,  $X$  being 10, 50 and 90.

## A discrete fracture matrix framework for simulation single-phase flow and non-isothermal reactive transport

*Computational geoscience*, 2024. <https://doi.org/10.1007/s10596-024-10327-5>

- The paragraph about Reaktoro in the introduction should be ‘...that solve chemical equilibrium reactions, based on the Gibbs minimisation formulation [10,33,34]. For chemical kinetics calculations, it uses a method from [35], which is based on a partial equilibrium assumption.’
- In the introduction to Sec. 2, it should be ‘... the chemical reaction equations in Sec. 2.1 ...’
- In Sec. 4.3, to be completely correct in the paragraph about the necessity of having efficient solution strategies, the text should have been ‘In our somewhat simplified simulation design, we ..., and solve the governing PDEs Eqs 8-11 in 2500 control volumes at every time step. When fractures are present, we also have to solve Eqs. 14-26 in the control volumes representing the lower-dimensional subdomains and interfaces between the subdomains.’

## Simulation of reactive transport in fractured porous media

*Transport in Porous Media*, 2023. <https://doi.org/10.1007/s11242-023-01946-0>

- In the article structure, it should be ‘... as follows. Section 2 introduces ...’
- The second line in Sec. 2.5 should be ‘... geochemical equations (3)-(6) are ...’
- Eq. 16 should be:  $\mathbf{n}_h \cdot \mathbf{v}_h = \Xi_j^h v_j$ , on  $\partial_j \Omega_h$ ,  $j \in \check{S}_i$ .
- In Eqs. 21 and 25, the upper flux condition should be: if  $v_j \geq 0$ ,
- The equations in Sec. 2.6 and further on should be numbered (27), (28) and so on.

- The first sentence in Sec. 3 should be ‘... consists of the PDEs (7)-(26) and the nonlinear geochemical equations (3)-(6), together with the constitutive laws (28)-(33).’ Also, Eqs. (9) and (10) are complementary equations for solving the overall problem, but not a part of the global system.
- In Sec. 3.2, the very last sentence in the first paragraph should be ‘Further, the mass action laws (2a) and (2b) can ...’
- The first sentence in Sec. 3.3 should be ‘... with the geochemical equations (3)-(6) and the constitutive laws (28)-(33) ...’
- In the digression about other approaches in Sec. 3.3, ‘chemical transport equations (8)’ should be ‘chemical transport equations (10)’.

## Simulation of reactive transport in fractured geothermal reservoirs

In *Proceedings of European Geothermal Congress*, 2022.

- In the introduction, the last sentence in the second paragraph should be ‘... between the host rock and fractures (Keilegavlen et al 2021).’
- The advective flux conditions in Eq. 14 lack a comma at the end. Likewise, the convective flux values and conditions in Eq. 15 all lack a comma. Lastly, in the description of the advective flux calculations (Sec. 3), the upper flux condition lacks a comma, and the comma in the bottom condition should not be a superscript.
- Below Eq. 26, it should be ‘... is solved using the software Super-LU (Li 2005).’
- The first sentence about discretisation in lower-dimensional domains should be ‘Thanks to the mixed-dimensional modelling, we can ...’