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Correction to: Enhanced numerical integration scheme based on image-compression techniques: application to fictitious domain methods

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The original article can be found online at https://doi.org/10.1186/s40323-020-00157-2.

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Following publication of the original article [1], the authors reported the errors in the equation and in the text.

The corrected text and equation are given below:

First, we evaluate the quality and reliability of the results obtained when using the three methods investigated in this section. In Fig. 22, the errors in the energy norm

$$||e||_{\mathrm{E}(\Omega_\mathrm{e})} = \sqrt{\left|\frac{\mathcal{B}(\boldsymbol{u}_\mathrm{ref}, \boldsymbol{u}_\mathrm{ref}) - \mathcal{B}(\boldsymbol{u}, \boldsymbol{u})}{\mathcal{B}(\boldsymbol{u}_\mathrm{ref}, \boldsymbol{u}_\mathrm{ref})}\right|} \cdot 100[\%], \tag{20}$$

for various input parameters are presented, which should be minimized by the FCM solution on the *energy space* $E(\Omega_\mathrm{e})$ over the domain Ω_e [3, 33]. In Eq. (20), $\boldsymbol{u}$ is the displacement field obtained by the FCM solution and $\boldsymbol{u}_\mathrm{ref}$ is the reference solution, obtained by p-FEM using blending functions [113] for an exact geometry mapping, resulting in a strain energy of $1/2 \cdot \mathcal{B}(\boldsymbol{u}_\mathrm{ref}, \boldsymbol{u}_\mathrm{ref}) = 0.7021812127$ [31]. Besides investigating the global quality of the results based on $||e||_{\mathrm{E}(\Omega_\mathrm{e})}$, we also evaluate the solution based on point-wise values of the stress-fields σ_vM and σ_yy along the diagonal $\overline{AB}$ in Fig. 21, where σ_vM is the von Mises stress and σ_yy the stress in the y-direction.

The original article [1] has been updated.

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