

Errata for “Magnetic Resonance Elastography - Physical Background and Medical Applications” by S. Hirsch, J. Braun, and I. Sack, Wiley-VCH.

Corrections as of August 13, 2018.

If you find any errors, the authors kindly ask you to report them to mre-book@charite.de so that they can be corrected here.

Chapter 4

- *Page 90:* The roles of α and φ are swapped in Eqs. 4.107 and 4.108.

$$(4.107) \quad \alpha = \frac{2}{\pi} \cdot \arctan \left(\frac{\text{Im}(\bar{G}^{*})}{\text{Re}(\bar{G}^{*})} \right)$$

$$(4.108) \quad \varphi = \arctan \left(\frac{\text{Im}(\bar{G}^{*})}{\text{Re}(\bar{G}^{*})} \right) = \frac{\pi}{2} \cdot \alpha$$

- *Page 91:* in the top row of fig. 4.7, S' should be S^* instead.
- *Page 110 end of 1st paragraph:* The strain energy function introduced in Section 4.5 (not 4.2)
- *Page 115, Fig. 4.12:* The label on the right-hand side of the interface should read “medium (2)”, not “medium (1)”.

Chapter 10

- *Section 10.3.1, Page 207, 4th line:* Romano et al published the first inversion method capable of retrieving multiple model parameters from an MRE scan with a sufficient number of independent measurements [see the three references listed below]. The method is based on a variational formulation of the wave equation for determining both Lamé parameters. More details to the variational formulation are given in chapter 10.7. Similar to the work of Romano et al., a multi-parametric direct inversion method termed AIDE (algebraic inversion of the differential equation) was introduced by Oliphant et. al [215].
 - Romano, A. J., Shirron, J. J., and Bucaro, J. A. (1998). On the noninvasive determination of material parameters from a knowledge of elastic displacements theory and numerical simulation. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 45(3), 751–9, doi: 10.1109/58.677725
 - Romano, A. J., Bucaro, J. A., Ehman, R. L., and Shirron, J. J. (2000). Evaluation of a material parameter extraction algorithm using MRI-based

displacement measurements. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 47(6), 1575–81, doi: 10.1109/58.883546

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Chapter 13

- *Section 13.1.2*: all instances of ϵ without subscript should be typeset as a tensor: $\boldsymbol{\epsilon}$

References

The following references need to be corrected:

- [47]: Guo, J., Hirsch, S., Scheel, M., Braun, J., and Sack, I. (2016). Three-parameter shear wave inversion in MR elastography of incompressible transverse Isotropic media: application to in vivo lower leg muscles. *Magnetic Resonance in Medicine*, 75(4), 1537–45. doi: 10.1002/mrm.25740
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- [353]: Romano, A. J., Guo, J., Prokscha, T., Meyer, T., Hirsch, S., Braun, J., Sack, I., and Scheel, M. (2014). In vivo waveguide elastography: effects of neurodegeneration in patients with amyotrophic lateral sclerosis. *Magnetic Resonance in Medicine*, 72(6), 1755–61, doi: 10.1002/mrm.25067
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