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CORRECTION

## Correction to: Improved Helioseismic Analysis of Medium- $\ell$ Data from the *Michelson Doppler Imager*

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Correction to: [Solar Physics \(2015\) 290: 3221–3256 \(Article I\)](#)  
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In Section 3.3 it is stated that we use  $\Delta m = m - m'$  in the range  $\pm 15$ . A code inspection has revealed that a range of  $\pm 10$  was used.

A code inspection has revealed that the default regularization used by the inversion code includes weighting terms. This is not properly reflected in Equation 28. The corrected equation should read

$$\sum_{n\ell s} \left[ \frac{1}{\sigma_{2s+1}(n, \ell)} \left( \int_0^R \int_0^\pi K_{n\ell s}(r, \theta) \bar{\Omega}(r, \theta) d\theta dr - a_{2s+1}(n, \ell) \right) \right]^2 + \mu_r \int_0^R \int_0^\pi r \left( \frac{d^2 \bar{\Omega}}{dr^2} \right)^2 d\theta dr + \mu_\theta \int_0^R \int_0^\pi \frac{1}{r^4} \left( \frac{d^2 \bar{\Omega}}{d\theta^2} \right)^2 d\theta dr, \quad (28)$$

where  $R$  is the maximum radius at which the kernels are given and both  $r$  and  $R$  have been normalized by the solar radius  $R_\odot$ . The integrals in Equation 26 are over the same range.

With these changes the relevant parts of the analysis performed in Article I are now correctly described.

We note that Article II (Larson and Schou, 2018) refers back to Article I and that the same inaccuracies are thus indirectly present there.

Finally we wish to call the reader's attention to the fact that a small fraction of the fitted modes appear to be affected by a systematic error during the times when MDI had a low duty cycle (A. Kosovichev and K. Mandal, private communication, 2023). In particular, the series with starting days of 3952, 4096, 4168, and 4240 show apparent artifacts for a number of modes within about 300  $\mu\text{Hz}$  of 3500  $\mu\text{Hz}$  for  $\ell \geq 30$ . The problem appears to be due to an unusual gap structure that is not being filled correctly. As the exact cause is

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not understood, caution is warranted for all modes in any timeseries where the gap-filling results in a substantially increased duty cycle (see Table 1 of Article I), which also includes the series starting on day 6472.

## Declarations

**Competing Interests** The authors declare no competing interests.

## References

- Larson, T.P., Schou, J.: 2015, Improved helioseismic analysis of medium- $\ell$  data from the Michelson Doppler Imager (Article I). *Solar Phys.* **290**, 3221. [DOI](#). [ADS](#).
- Larson, T.P., Schou, J.: 2018, Global-mode analysis of full-disk data from the Michelson Doppler Imager and the Helioseismic and Magnetic Imager (Article II). *Solar Phys.* **293**, 29. [DOI](#). [ADS](#).

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