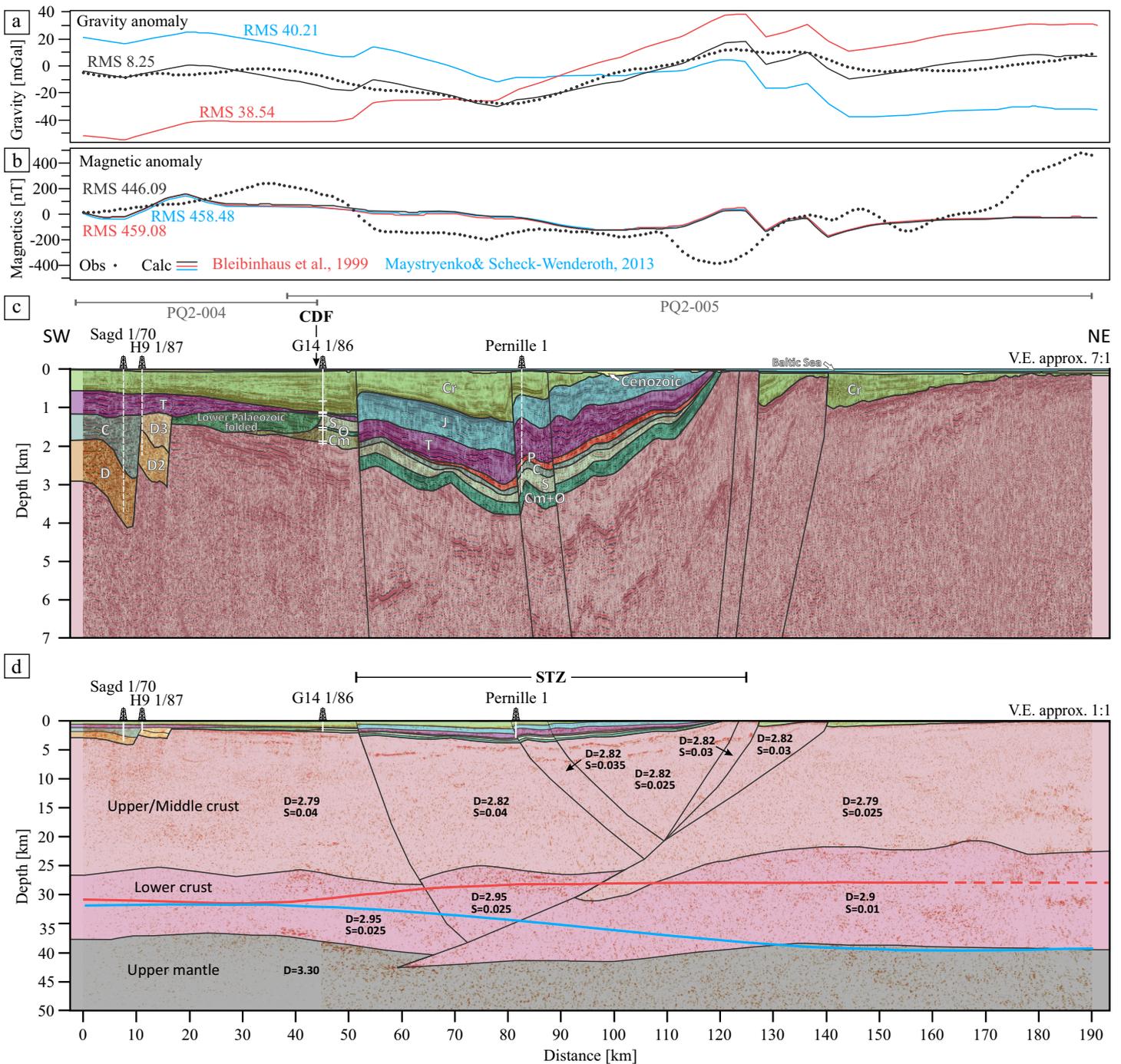


## Supplementary Material 2

### Alternative gravity and magnetic models for profile PQ-004-005



SM2. Alternative gravity and magnetic models for profile PQ-004-005. (a, b) – gravity and magnetic data, respectively. Black dotted lines – observed data. Black solid lines – synthetic response of the geological model based on our seismic interpretation. Red and blue solid lines – synthetic response of the alternative geological models with the Moho horizon implemented after Bleibinhaus et al. (1999) and Maystryenko & Scheck-Wenderoth (2013), respectively. (c) – vertically exaggerated (7:1) upper part of the geological model. (d) – vertically exaggerated (1:1) full geological model based on the seismic profile. Red and blue solid lines – the Moho horizon by Bleibinhaus et al. (1999) and Maystryenko & Scheck-Wenderoth (2013), respectively. Please note that RMS errors of the gravity synthetic profiles for the alternative models are significantly higher than that produced by our preferred model. Numbers indicate densities (D) in g/cm<sup>3</sup> and susceptibilities (S) in SI convention. Abbreviations: CDF – Caledonian Deformation Front; STZ – Sorgenfrei-Tornquist Zone.