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Combining magnetic and seismic data as a tool for basin analysis: An example from western Eurasia

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New, more detailed, compilations of seismic crustal thicknesses over western Eurasia (Pasyanos et al., 2004), combined with the newly available World Digital magnetic anomaly Map (Korhonen et al., 2007), and further refinements to the satellite anomaly map (Maus et al., in review) as CHAMP drops to lower altitudes, suggest that the time is ripe to look in detail at what these data can tell us about basin development in the western Eurasia region. We utilize an inverse approach, with a seismic starting model, to determine a magnetic crustal thickness satisfying the magnetic field observations, subject to the usual assumptions. Models with resolutions of 2 degrees, 1 degree, and 0.5 degree are evaluated, and are compared over well-known basins to determine where the model assumptions fail, and where they work well.