

# Temperature and water content in the mantle transition zone beneath the Sunda arc, Indonesia

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We determined temperature anomalies and water contents in the mantle transition zone beneath the Sunda arc, Indonesia, from P-wave tomographic images and the thickness of the mantle transition zone inferred from receiver function method with JISNET broadband data. We assumed the P-velocity anomalies and the thickness are controlled solely by and related linearly to temperature and water content. We solved the linear equations with coefficients determined from high-pressure high-temperature experiments of spinel. The temperature anomalies and water content thus obtained are 100-200K and 0.2-0.3 wt%, respectively, around Java Island.