

Structure and Properties of the Lithosphere Subducting Beneath Indonesia Consequences on the subduction

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1) Structure and age of the Wharton Basin deduced from the free-air gravity anomaly (Sandwell and Smith, 2009) for the fracture zones and marine magnetic anomaly profiles for the isochrons.



2) Reconstruction of the subducted of the northern Wharton basin using finte rotation parameters from twoand three plate reconstructions.

38

40-88

110°

100

90

5) The deviation of the Sunda Trench from the regular arc shape (dotted lines) off Sumatra is explained by the presence of the younger, hotter, and therefore lighter lithosphere in compartments C-F, which resists subduction and forms an indentor (solid line). The deviation off Java is explained by the resistance of the thicker Roo Rise, an oceanic plateau entering the subduction.













\bigcirc	C20 (42-44 Ma)
	C21 (46-48 Ma)
\bigcirc	C22 (49-50 Ma)
\bigcirc	C23 (51-52 Ma)
\bigcirc	C24 (53-54 Ma)
\bigcirc	C25 (56 Ma)
	C26 (58 Ma)
\bigcirc	C27 (61 Ma)
	C28 (62-63 Ma)
\bigcirc	C29 (64-65 Ma)

)))	C30 (66 Ma) C31 (68-69 Ma) C32 (71-73 Ma) C33 (74-79 Ma) C34 (83 Ma)
	Fossil ridge
	Fracture zone
	lso (100 km)