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Broadband Seismological Experiment on Andaman Island-Initial Results

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We present results from a broadband seismological experiments over Andaman Islands to investigate its seismicity pattern, earthquake mechanism and velocity structure. The Andaman Islands parallels the accrete plate boundary separating the Indian and Sunda plates east of Ninety East Ridge. It is bounded to the east by strike-slip faults and spreading centers and to the west by a subduction zone. We operated five broadband stations along N-S during October 2003 - March 2004. During this period several hundred local earthquakes were recorded with large concentration in the northern part. The earthquake hypocenter and mechanics resembles those available from the better located global events. Beneath the island the Benioff zone lies between 15 and 40 km. Using the teleseismic event recorded by the stations, we generated receiver functions to model the crustal structure. At ~ 2-2.5 sec (corresponding depth ~ 20 km) we observe a positive P-to-S conversion representing the Moho depth. The other significant conversion occurs at 10 sec (corresponding to depth of ~ 90 km) that represents a low velocity.