

Long-period Micro-tremors Observed in the Okinawa Trough

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Long-period Micro-tremors Observed in the Once in a while, long-period micro-tremors are observed at broad-band stations of the BATS (Taiwan) and F-net (Japan) networks. The amplitudes of these long-period micro-tremors are very small. Most of the time, their amplitude are smaller than the ambient noise levels. To study these micro-tremors further, all seismograms of 2006 and 2007 in the above seismic networks are filtered with a band pass of 0.02 to 0.05 Hz. By the filtering signals, long-period micro-tremors can be retrieved from the ambient noises. Then the detected signals are checked whether or not they are Rayleigh waves from earthquakes of magnitudes from 3.5 to 5.5. During the analysis micro-tremor occurrences, it was noted that they changed in time. This change is perhaps associated with the magma activity near Ishigaki island and Okinawa island in the Okinawa trough. These long-period micro-tremors are relatively well located by use of the BATS and F-net, particularly in the stations in northeastern Taiwan and western Ryukyu islands. Currently, the activity of micro-tremors is being studied in terms of its correlation with the crustal deformation based on GPS.