Received:August,20.2009 Accepted:February,1.2010

Abstract

As a part of studies for the Amitori remains, we carried out recently the seismic and electrical explorations in Iriomote Island, southwestern Okinawa prefecture. Amitori village was finally abandoned in 1971, because of its imperfect infrastructures. At present, however, there only exists one institution, the Okinawa Regional Research Center of Tokai University. Archaeological explorations in the Amitori area have already been made several times and many relics of the past were dug out within a 1.5-2.0 m thick surface layer. This is the first attempt to apply geophysical (seismic refraction and electrical resistivity) methods to the Amitori area in order to make clear a detailed shallower structure down to the depths of 10m or so. We selected three main survey lines with lengths of about 100-150m, two of them locating within the central part of village and another one in a nearby rice field. The results obtained are summarized as follows;

(1) The most suitable seismic model of underground structures in this area is composed of four layers, these are, surface layer(sand), 2nd(sand stone), 3rd(mud stone), and 4th(sandy shale) layers, continuously. The distribution patterns of electrical resistivity are harmonized strongly with the seismic model. Moreover low resistivity zones may be inferred as to be connected with groundwater distribution.

(2) The thickness of surface layer is presumed as about 2.0m uniformly within the whole area of Amitori village. In the archaeological surveys most of the relics are found in the surface zone within 1.5-2.0 m thick, consequently all relics being buried in the first layer.

(3) Generally it is difficult to discriminated directly on the location and, or shape of buried relics using simply the seismic on electrical method, but it must be easy to make clear on the form or boundary of surface layer as an object of archaeological surveys. Therefore the present results obtained by geophysical techniques may play an important role in the archaeological studies of Amitori remains, Iriomote Island, SW Okinawa.