

## The development of short time and high-precise positioning technology using by GPS-VRS-RTK system

# Kazuaki Watanabe[1]; Toru Tamura[2]; Futoshi Nanayama[2]

[1] AIST; [2] GSJ/AIST

The VRS-RTK system is the method that establishes and utilizes Virtual Reference Station (VRS) near the measurement positions on the basis of information of GPS electron control point by Geographical Survey Inst. and GPS measurement information by the measurers. This method utilizes the advantage of GPS that the accuracy relatively improves, if the distance from the control point shortens. In this case, it becomes a premise that networked high-precise position information service (fee-based service) provided by JENOBA system is received, and transmit and receive of information utilize the public line of modem and mobile phone. Therefore, if it is a place that the sky opens and the mobile phone runs, this method can be adopted in most place of Japan. We developed new VRS-RTK measurement system worked by one person. In our system, the GPS antenna was fixed in the top of the pole, also controller was fixed in the middle of the pole, GPS main receiver and outside battery were put in the backpack, and modem and mobile phone in the west bag. In addition, we would like to show you experimentally result from topographic survey for marshland in Nemuro and Kiritappu, eastern Hokkaido and Tottori dune in Tottori Prefecture.