問 1

What is claimed is:

1. An artificial satellite comprising a Doppler compensating circuit including:

a Doppler estimating portion for acquiring a reception power level of a reception wave and a time variation of the reception power level, deriving a Doppler frequency of a satellite on the basis of the reception power level of the reception wave and the time variation of the reception power level, and outputting the Doppler frequency as an estimated Doppler frequency; and

a multiplying portion for offsetting a local frequency for modulation by the estimated Doppler frequency by multiplying the estimated Doppler frequency by the local frequency.

2. The artificial satellite according to claim 1,

wherein the Doppler estimating portion is configured to acquire the reception power level of the reception wave and the time variation of the reception power level, calculate the Doppler frequency of the satellite on the basis of the reception power level of the reception wave and the time variation of the reception power level while treating light speed, a position of a transmitting station, a carrier wavelength λ, an equivalent isotropic radiated power of transmission, and a reception antenna gain Gr as fixed parameters, and output the Doppler frequency to the multiplying portion as the estimated Doppler frequency.

3.   The artificial satellite according to claim 1,

wherein the Doppler estimating portion is configured to acquire the reception power level of the reception wave and the time variation of the reception power level, calculate candidates of the estimated Doppler frequency on the basis of the acquired reception power level of the reception wave while referring to reference information in which candidates of the estimated Doppler frequency prepared in advance so as to correspond to the reception power level of the reception wave are recorded, select the estimated Doppler frequency from the candidates on the basis of the time variation of the reception power level, and output the selected Doppler frequency to the multiplying portion.

問 2

In recent years, a fuel battery device including a fuel battery cell capable of obtaining electric power using a fuel gas (hydrogen-containing gas) and an oxygen-containing gas (air) has been proposed as a next generation energy source.

A power conditioner is used in a power generation system to enable a fuel battery device, which is a distributed power source, to supply a load with electric power in association with a system power source.   The power conditioner has a variety of functions such as an inverter function to convert the direct current output from the fuel battery device to alternating current and a controlling function to control the interconnection with the system power source.

The power conditioner supplies the electric power generated in the fuel

battery device to an external load in association with the system power source. At this time, the power conditioner outputs electric power corresponding to the electric power required by the external load by increasing or decreasing the output power in order to avoid the reverse power flow to the system. When the output power from the power conditioner to the external load is increased, the output current from the fuel battery device to the power conditioner decreases. Upon detecting the decease of the output current, the fuel battery device attempts to control operation of auxiliary equipment to increase the amount of the oxygen gas and the fuel gas supplied to the fuel battery cell so that the amount of generated power is increased. However, it is difficult to immediately increase the amount of the oxygen gas and the fuel gas, which leads to a state where the oxygen gas and the fuel gas for power generation are deficient in the fuel battery device. Power generation in the state where the oxygen gas and the fuel gas are deficient causes damage to the fuel battery cell, resulting in the problems whereby the possibility of damage of the fuel battery device is increased and the service life is shortened.

問 3

(1)

　　　As specifically described below, the business overview BV abstractly illustrates outline of the businesses to be systemized using graphics which indicate the "events", "cores", and the relationship therebetween and is an overview macroscopically showing the entire practice of the company so as to be understood by a plurality of persons. The pretreatment engine 100 has a

role to clearly find out businesses and objects in the basic businesses and express them in a form of a business overview when the basic business application is constructed.

(2)

The SVO list is a table displaying the operations performed on the operation objects by the roles on the scenario chart and is also a table deploying the operations at the granularity the same as that of the roles on the scenario chart D4, that is, a table deploying the operations using, as a granularity, "functions" obtained when the roles on the scenario chart D4 are systemized. The activity definition E2 is a definition relating to the processes (steps) for accomplishing the roles on the scenario chart D4.