

ABSTRACT OF THE DISCLOSURE

A wireless communication system is disclosed by which, in communication that uses rotationally polarized waves, the information transmission amount is increased to perform communication. A transmitter 101 transmits a signal using polarized waves that are different at different timings using a rotationally polarized wave. In a receiver 201, a reception baseband circuit 20 detects different polarized waves received at timings corresponding to the polarized waves used by the transmitter 101 on a time axis using a plurality of signals equivalent to the received signals to obtain a wireless propagation characteristic between the transmitter 101 and the receiver 201. Then, the transmitter 101 propagates different signals in the form of a plurality of polarized waves at the same time using a plurality of rotationally polarized waves having initial polarization rotation phases different from each other. The transmission capacity can be increased by an amount corresponding to the number of different signals.

FIG. 1