Two-port Networks
Laboratory V

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1 Goal of the exercise

The aim of this exercise is to familiarize with experimental methods of determining two-port network parameters by measuring output and input voltages and currents, and then compare theoretical and experimental results

2 Two-port networks

Two-port model is used in mathematical circuit analysis to isolate portions of large circuits. Two-port network can be regarded as "black box" with its properties specified by a characteristic matrix. Characteristic matrix in impedance form can be determine by following formulas.

Characteristic matrix can have form of impedance $\mathbf{Z}$, admittance $\mathbf{Y}$ or chain(ABCD) matrix and many more form that we are not going to use right now.

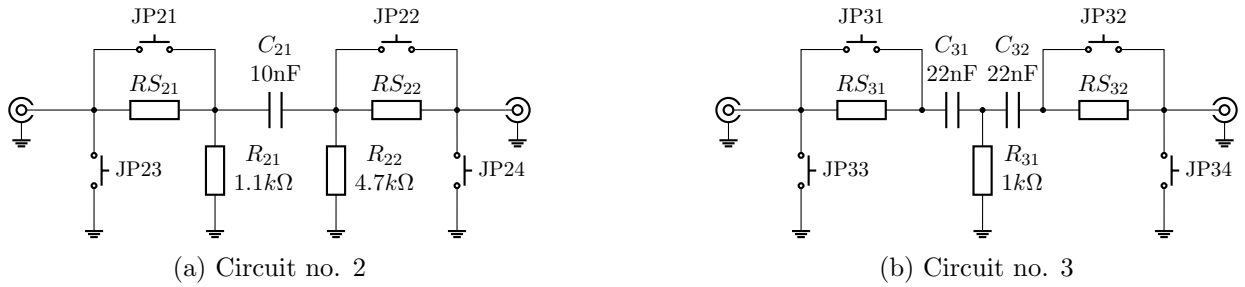Form of this matrix can be easily change using

3 Course of measurements

(a) Circuit no. 2   (b) Circuit no. 3

Figure 1: Measured circuits
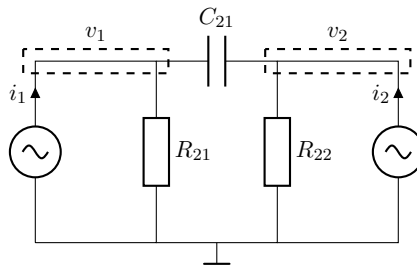
4 Theoretical calculations
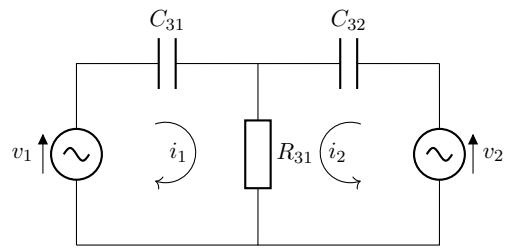

Figure 2: Simplified circuit no. 2

Figure 3: Simplified circuit no. 3

5 Comparison

6 Conclusions