uebung_4.3.1

Student Group

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Exercise 4.3.1 Instrument amplifier

Find out through an internet research, as the instrument amplifier works.

1. Consider the im Wiki unter 4 Grundschaltungen II : Instrumentenverstärker illustrated Falstad Simulation and change the variable resistance. Especially analyze the minimum and maximum value of the output voltage. This is possible by moving with the mouse pointer over the output signal.
2. What happens if you remove the variable resistance and leave the connections open? Which circuit have the OPVs at the entrance?

3. Compare the following situations. What is to be determined?
    1. Variable resistance is replaced by resistance with 2 kOhm.
    2. Variable resistance is replaced at the top connection by 1 kOhm against mass and below by 1 kohm against mass.
    3. Variable resistance is replaced at the top connection by 1 kOhm against a voltage source with 1 V and below by 1 kOhm against 1 V.

4. Which transmission equation does the initial construction, if all resistances (up to the variable resistance R_G) have the same value R? $U_A=F(U_2,U_1,R_G,R)=?$

5. What are the advantages for the instrument amplifier to the differential amplifier?