# On non-ideal voltage and current measurement tools

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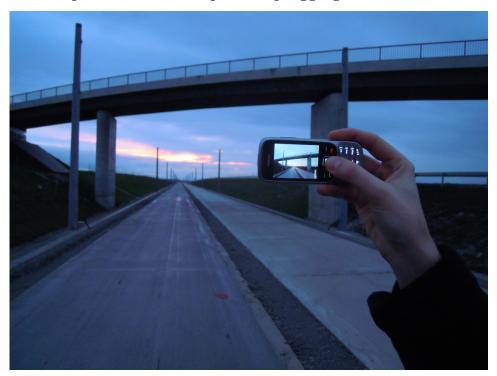
### 1 Abstract

It's contents should be too abstract for me to be able to write it.

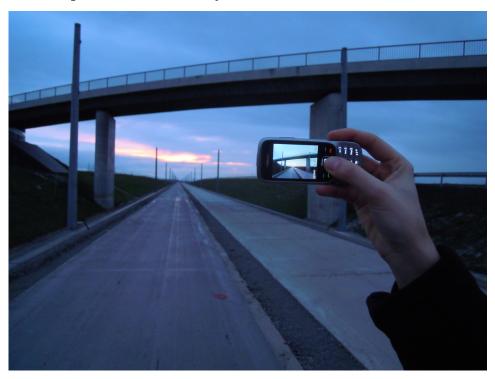
## 2 Experiments

There were 4 experiments arranged:

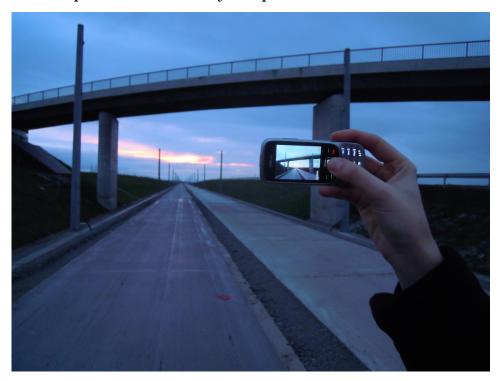
### 2.1 Experiment $N_2$ 1: Sequential plugging in



### 2.2 Experiment №2: Only Voltmeter



#### 2.3 Experiment №3: Only Ampermeter



### 3 Solving equation system

$$A_1 = \frac{\varepsilon}{I} \tag{1}$$

$$V_1 = \frac{\varepsilon \cdot R_v}{I} \tag{2}$$

$$R_v = \frac{V_1}{A_1}$$

$$V_2 = \varepsilon \cdot \frac{R_v}{R_v + R_\varepsilon} \tag{3}$$

$$\varepsilon = V_2 + V_2 \cdot \frac{R_{\varepsilon}}{R_v}$$

$$A_3 = \varepsilon \cdot \frac{1}{R_A + R_\varepsilon} = (V_2 + V_2 \cdot \frac{R_\varepsilon}{R_v}) \cdot \frac{1}{R_A + R_\varepsilon}$$
 (4)