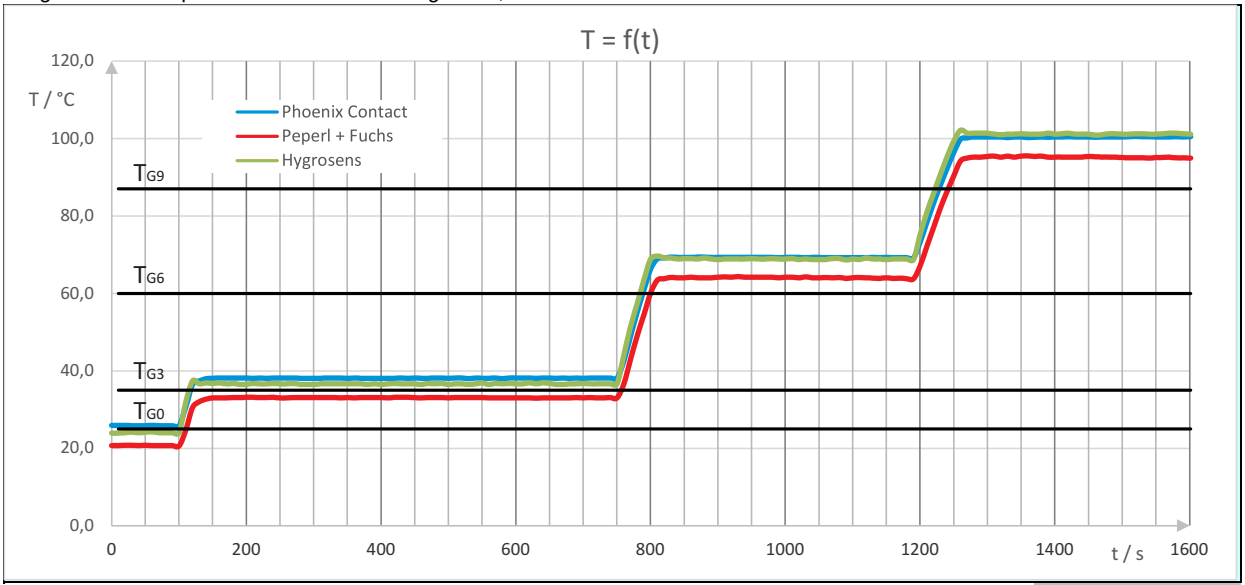
Temperaturmessung - TM1

TM1_v10a

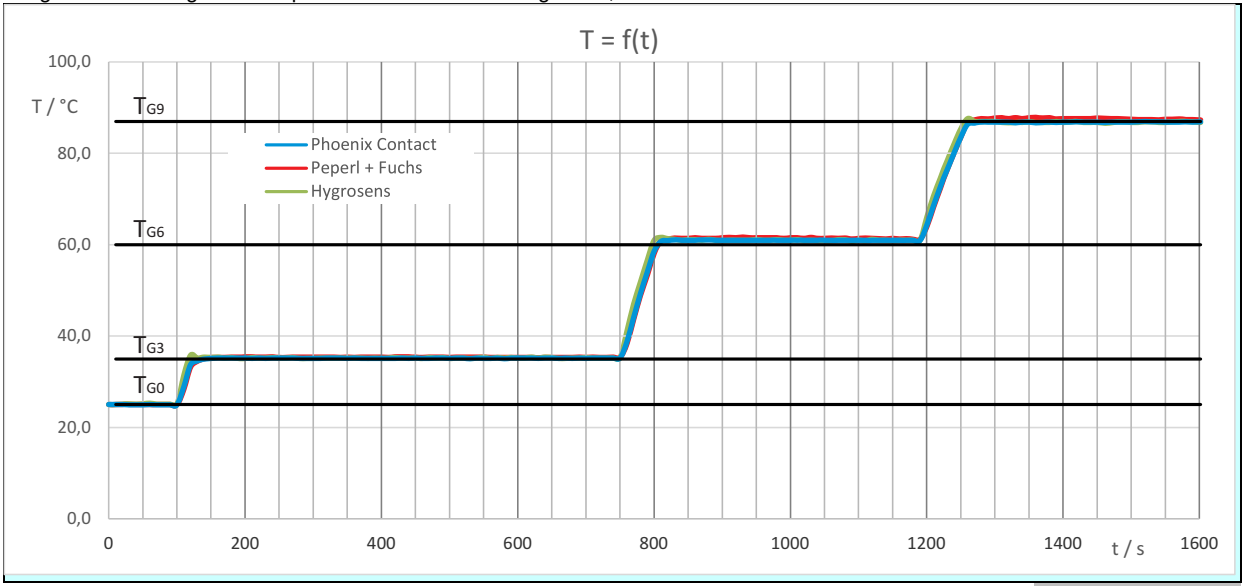
16.o3.2o23

Diagramm 1 - Temperaturverlauf der Messungen M1, M2 und M3

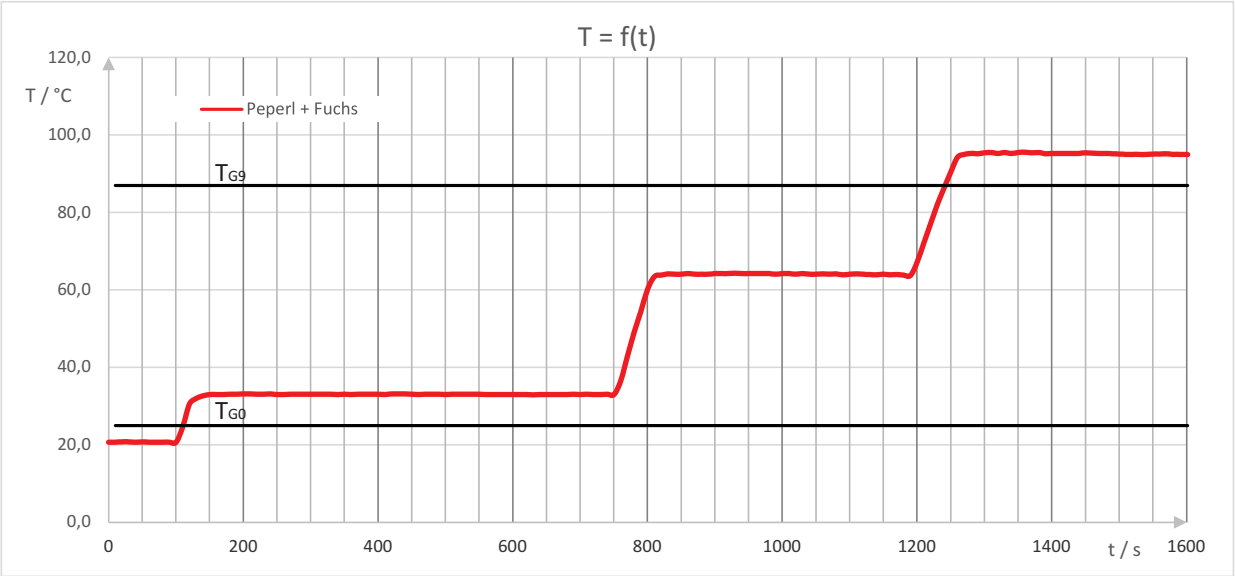


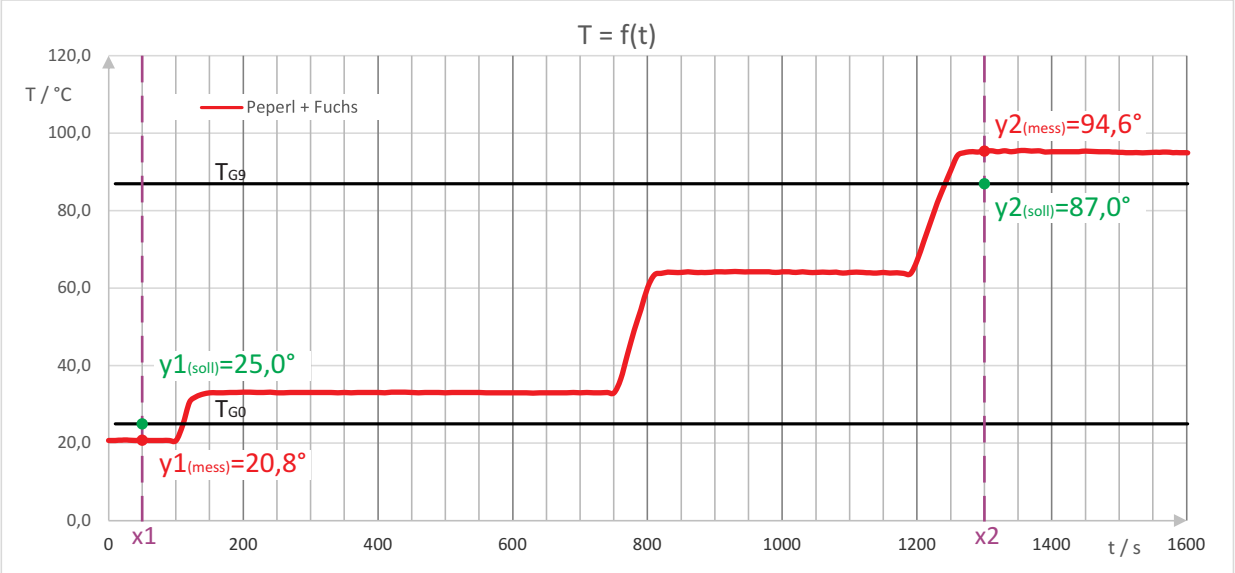
0 10

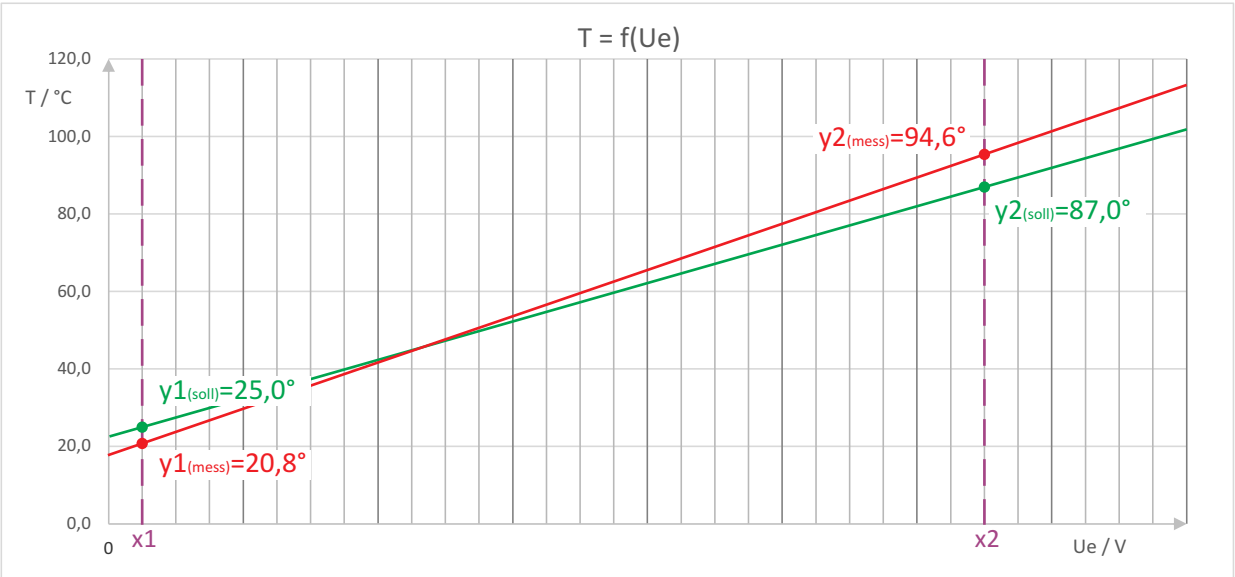
Diagramm 2 - Korrigierter Temperaturverlauf der Messungen M1, M2 und M3

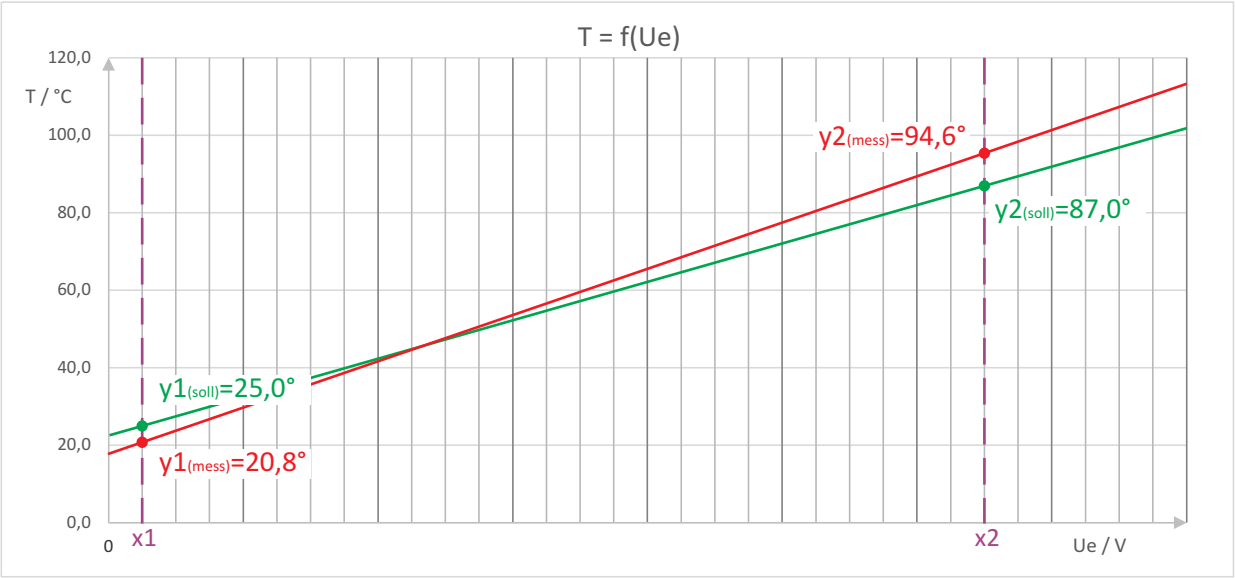


0 5


T = f(t)
T / °C
120,0
100,0
80,0
60,0
40,0
20,0
0,0
Peperl + Fuchs
TG9
TG0
0
200
400
600
800
1000
1200
1400
1600
t / s


T = f(t)
T / °C
120,0
100,0
80,0
60,0
40,0
20,0
0,0
Peperl + Fuchs
TG9
TG0
y2(mess)=94,6°
y2(soll)=87,0°
y1(soll)=25,0°
y1(mess)=20,8°
0
x1
200
400
600
800
1000
1200
x2
1400
1600
t / s


T = f(Ue)
T / °C
120,0
100,0
80,0
60,0
40,0
20,0
0,0
y2(mess)=94,6°
y2(soll)=87,0°
y1(soll)=25,0°
y1(mess)=20,8°
0
x1
x2
Ue / V



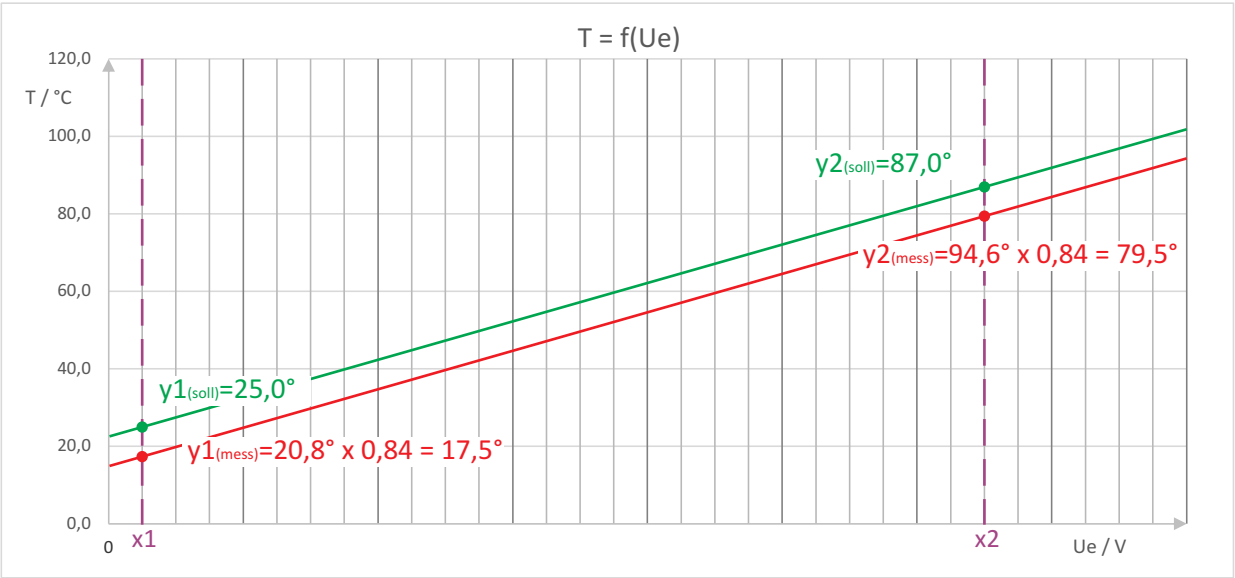
$$y = m\,x + b$$

$$m_{(soll)} = \frac{y2_{(soll)} - y1_{(soll)}}{x2 - x1} \qquad m = \frac{y2 - y1}{x2 - x1} \qquad m_{(mess)} = \frac{y2_{(mess)} - y1_{(mess)}}{x2 - x1}$$

$$m_{(soll)} = k\ m_{(mess)}$$

$$k = \frac{y2_{(soll)} - y1_{(soll)}}{y2_{(mess)} - y1_{(mess)}} \quad \text{(} x2 - x1 \text{ kürzt sich)}$$

$$k = \frac{87° - 25°}{94{,}6° - 20{,}8°} = \frac{62K}{73{,}8K} = 0{,}84$$



$$v = y1_{(soll)} - y1_{(mess)} = y2_{(soll)} - y2_{(mess)}$$

$$v = 25° - 17{,}5° = 87° - 79{,}5° = 7{,}5\ K$$