

Finding Ug1 for a given constant Ia - Batch processing

One of my RoeTest-customers had the following problem:

He wanted to find the grid voltage that belongs to the rated current Ia from the data base for a larger number of tubes. At that operating point he then wanted to measure the conductance. He needed that for power end tubes like KT88, KT120, EL34.

For that purpose I have extended batch processing:

Schnelltest
 Ug1 suchen für IaKonst
 Steilheit bei neuem Ug1 rechnen

Ug1-search is done with the rapid test mode ("Schnelltest") in batch processing.

However there are the following limitations:

- requires hardware version V9 or higher
- only tubes with one system supported
- only for tubes whose type allows conductance testing
- only usable with batch processing (not directly available in rapid test mode)

The result of the measurement looks as follows (Example: EL34):

1st column: shows the measured currents (as before)

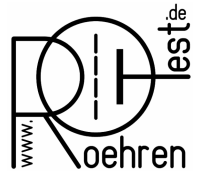
2nd column **red**: Approximated rated current Ia (100mA) and found associated Ug1 of -12.6V

2nd column **blue**: Measured conductance at Ug1 = -12,6V (to distinguish this special measurement from the conductance at the original operating point the result for the new operating point is shown one column to the right)

System	1	2	3
Röhrenart	Pentode		
Sollwert IA [mA]	100		
Messwert IA [mA]	88,81	99,98	
= % vom Sollwert	89	Ia/Ug1=	
Sollwert IG2 [mA]	14,9		
Messwert IG2 [mA]	12,863	-12,6	
= % vom Sollwert	86		
S [mA/V]		11,12	
bei Delta UG1 [V]		0,6	
Messwert IA[mA] bei +1/2 dUG1		103,73	
Messwert IA[mA] bei -1/2 dUG1		97,06	
μ			
D Anode [%]			
Messwert IA [mA]			
bei UA [V]			
D G2 [%]			
Messwert IA [mA]			

RoeTest - das Computer-Röhren-Messgerät -

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The results are also copied to the list of the measured tubes:

#ID	tube	1: %	Ik	Ia	Ig2	S	μ	Ri	2: %	Ik	Ia	Ig2	S	μ	Ri	3: %	Ik
660	EL34	89	101,67	88,81	12,865				Ia/Ug1		99,98	-12,6	11,12				

Note: Now it is apparent why searching for Ug1 has been implemented for tubes with one system only: The available space in the table is needed for the additional results. But searching for Ug1 can be used for tubes with more than one system too: Create a new data set in the tube database with only the system that shall be tested.