Two-Port Networks Utilities v0.20c (TPNU)

1. What's library TPNU made for

TPNU contains functions useful for calculations related to two-port networks. They allow to convert between different parameters (like Z Y H A), computing transmitance parameters (like H_U, H_I, H_{UI}, H_{IU}) and wave parameters.

2. Licence

TPNU is freeware.
It is allowed to redistribute TPNU under condition that no changes have been made to it (it will be redistributed in an original form) and also without any charges.
Author cannot be responsible for any eventual damages that may appear during utilization of TPNU.

3. Registration

Simply send me an e-mail.

4. Requirements

The current version of TPNU requires only HP48G(X) calculator (and some free memory of course).

5. Installation

Installation procedure of TPNU is typical for auto-attaching libraries.

- Copy TPNU020c.lib file to any folder in calculator.
- Bring it on stack by pressing corresponding key.
- Remove TPNU020c.lib file from hp and left only its copy on stack.
- Enter `:0:1000` and press **`STO.`**
- Turn hp off and on again.

Now TPNU library will be accessible by pressing → **`LIBRARY`** in folder TPNU.
If you want TPNU work with symbolic arguments remember to ensure you have flag 03 set to **`Function → symb.`**

6. Using built-in functions

Function name	Performed task	Input parameters			Output
		Stack, level 1	Stack, level 2	Stack, level 3	
TPNM	Conversion between Z, Y, H, A parameters	Matrix[1]			Chosen matrix
Hxx	Computing H_U, H_I, H_{UI}, H_{IU} of two-port network.	Load impedance	martix		Chosen parameter
Zp	Computing input impedance	Load impedance	matrix		Chosen impedance
Zw	Computing output impedance	Load impedance	matrix		Chosen output impedance
Zfx	Computing wave impedances	A matrix			Chosen wave impedance

[1] Supported matrices types are: Z, Y, H, A.

Wavep	Computing wave parameters	Matrix			Chosen wave parameter (Pe, Pz, g)
CCNV	(like TPNM)	Input matrix type (ex. 'H')	Output matrix type (ex. 'Z')	Input matrix	Chosen matrix
About	Informing about library and author				Information about library and author

7. TODO

- Optimalize code.

8. From author

I'll be glad to hear your comments and suggestions concerning everything that affects TPNU. I hope you'll enjoy using my lib, and that it'll help you solve problems it was designed for.

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