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GTS/SoilWorks 動力分析中的1D Ground Response Analysis等同於SHAKE程式的功能

A

GTS程式中，Tool > 1D Ground Response Analysis 指令下可進行地盤反應分析，GTS內含的工具為SHAKE code，分析結果與SHAKE code完全相容，且以視窗輸入，極為方便。程式中並內建Outcropping和Within功能，來計算岩盤露出與否之波傳。

The screenshot displays the 'Tools' menu with '1D Ground Response Analysis ...' selected. Below the menu is a table of soil and rock layers with the following data:

No.	Name	Thickness(m)	Unit Weight(N/m ³)	Vs(m/sec)	Gmax(N/m ²)	Damping Ratio	Dynamic Curve ...	Output Motion Type
1	回填層1	2.00	18.00	155.00	44097.63	0.01	1:回填層	Outcropping
2	回填層2	1.88	18.00	150.00	41298.51	0.01	1:回填層	Outcropping
3	粘性土	1.10	18.00	150.00	41298.51	0.01	2:粘性土	Outcropping
4	風化土1	3.20	19.00	390.00	294687.79	0.01	3:風化土	Outcropping
5	風化土2	3.00	19.00	390.00	294687.79	0.01	3:風化土	Outcropping
6	風化土3	3.00	19.00	390.00	294687.79	0.01	3:風化土	Outcropping
7	風化土4	3.00	19.00	390.00	294687.79	0.01	3:風化土	Outcropping
8	風化岩1	3.00	20.00	640.00	835351.52	0.01	4:風化岩	Outcropping
9	風化岩2	2.00	20.00	640.00	835351.52	0.01	4:風化岩	Outcropping
10	風化岩3	2.00	20.00	640.00	835351.52	0.01	4:風化岩	Outcropping
11	軟岩1	2.70	24.00	980.00	2350405.08	0.01	5:軟岩	Outcropping
12	軟岩2	3.00	24.00	980.00	2350405.08	0.01	5:軟岩	Outcropping
13	軟岩3	3.00	24.00	980.00	2350405.08	0.01	5:軟岩	Outcropping
14	硬岩1	0.50	26.00	1200.00	3817820.00	0.01	6:硬岩	Outcropping
15	硬岩2	0.00	26.00	1200.00	3817817.50	0.01	6:硬岩	Outcropping

Below the table is the 'Layer Information' dialog box with the following fields:

- Layer No.: 16
- Name: Layer
- Thickness of m: 0
- Unit Weight N/m³: 0
- Maximum Shear Wave m/sec: 0
- Maximum Shear N/m²: 0
- Initial Estimate of: 0
- Dynamic Curve Type: 1:回填層
- Outcropping
- Within
- BedRock

At the bottom, there is a 'Control Motion Input' dialog box with the following settings:

- Outcropping(2E)
- Within(E+F)
- Layer No.: 15:Hard rock2
- Ground Accel. Function: Bedrock-L.P. Wave

程式中並內建Sun,Seed, Idriss等學者之Modulus Reduction Curve及 Damping Curve。

Observation Wave 2E (At the ground surface E=F)

