

Dynamic boundary conditions

1. Absorb/Damper

- Absorbs the outgoing wave from the domain
- Used for problems where the dynamic source is inside the domain

2. Transmit

- Only apply in the lateral boundaries
- Consists of load history and a absorb boundary
- The load history is calculated from the free field motion
- Used for earthquake simulation

3. Tie

- To restrain the nodes on the left and right to move in the same displacement
- Only applicable to the model that have the same number of nodes on both sides
- Used to model perfect one dimension soil column to analyze site response

4. Nodal mass

- An additional mass can be assign to a node, can be used to simulate the dynamic load from an external source

5. Hydro mass

- Used to model the effect of hydrodynamic of water based on the formulation of Westergaard (1933) for vertical dam. However, in RS2, the formulation was modified to account for the angle of the slope.

Dynamic Load:

Compliance base:

- Since the rigid base will null the effects of the absorb boundary conditions, in order to absorb the outgoing wave from the model (to avoid the reflection of those waves back to model), the motion restrain will be transferred to stresses and apply to the boundaries. Only applicable for dynamic load types of Velocity and Acceleration.