**Transient Waves on lossless lines**

With no loss, all harmonics experience the same propagation environment.

The result is that waves retain their shape as they propagate.

To track the transient response in this case, two reflection coefficients can be defined—\( \Gamma_s \) (at the source end), and \( \Gamma_L \) (at the load end).

There is also a time delay associated with propagation, \( t_d = \frac{d}{V_p} \).
Bounce diagrams
This process is often analyzed using bounce diagrams.
Example