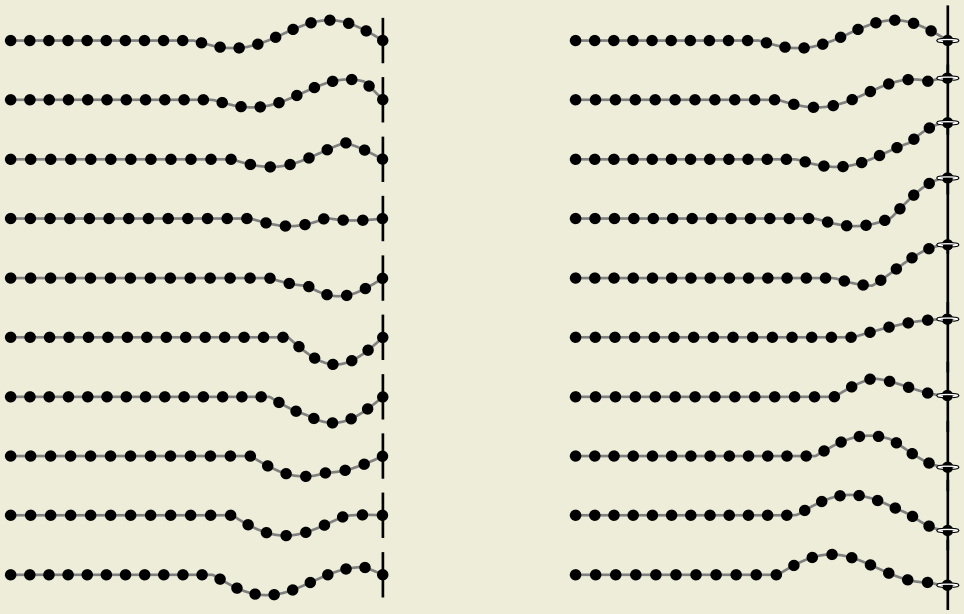
Some PSTricks macros for the study of reflections



Reflection of transverse waves

MANUEL LUQUE and JÜRGEN GILG

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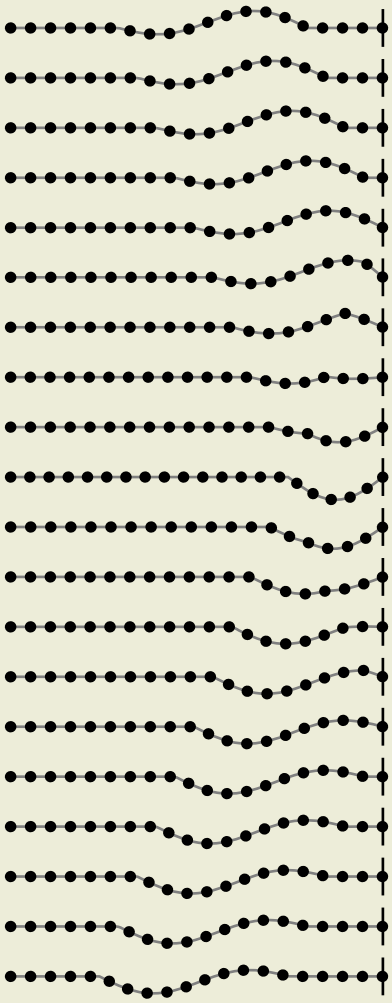
1 Reflection of transverse waves from a fixed/free boundary

The following figures are inspired by figure 1-18 (page 20) of *Ondes, optique et physique moderne* of Resnick-Halliday, French edition, published by InterEditions in 1980.

Transverse waves transfer energy in a direction perpendicular to the direction of the disturbance in the medium.

- At a *fixed boundary*, the reflected wave changes its polarity (undergoes a $\varphi = \pi$ phase change) compared to the incident wave.
- At a *free boundary*, the reflected wave has the same polarity (no phase change $\varphi = 0$) as the incident wave.

fixed boundary



free boundary