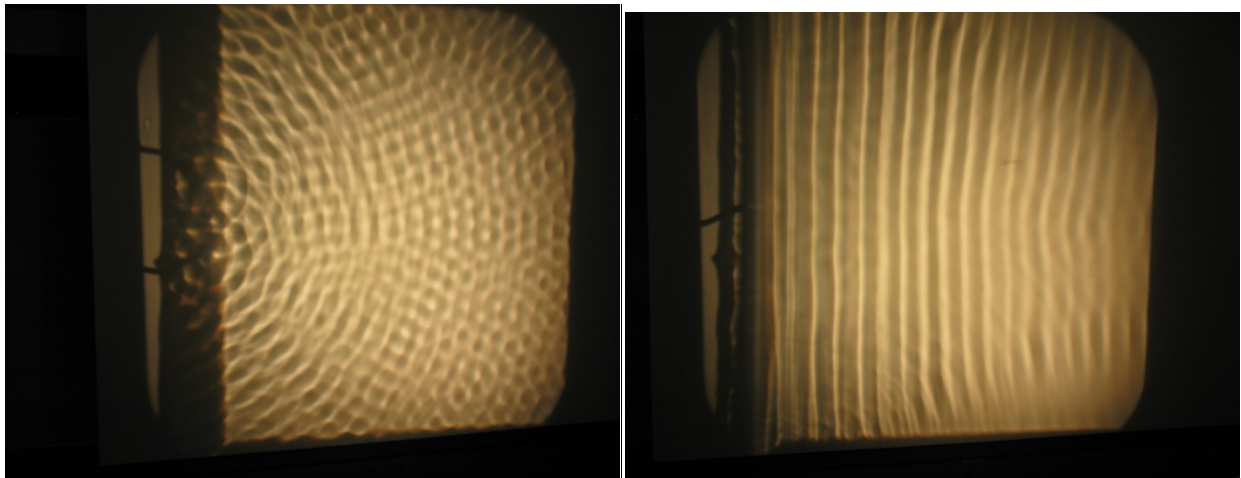


Ripple Tank Interference



Purpose: To demonstrate interference patterns of water waves.

Location: room 146, shelf O4 (“Wave Generator” with instructions); power supply, shelf C3; banana/alligator cords, side of cabinet A; rod stand, by door to 144; rod clamp, shelf i5

In order to minimize reflections and better interference patterns, place the pieces of sponge along the edges of the ripple tank. Setup the motor using the dowel, a rod stand and clamp (top photo). With the two “point source” rods down but not touching the bottom of the ripple tank, fill the tank enough that both rods penetrate the surface of the water. Connect the HP/Agilent DC power supply to the motor terminals with the voltage turned down to zero. Turn on the power supply and increase the voltage to about 2V, at which point the motor should start running. Increasing the voltage will increase the motor speed (i.e. frequency of excitation). Be sure the rods remain continuously in contact with the water without hitting the bottom. Also, the motor should not be touching the ripple tank or the projector. At this point you should have an interference pattern similar to the bottom left photo.

Other accessories can be used to generate different wave patterns, such as the straight black rod to generate plane parallel waves (bottom right photo).