

4.5 POLARIZATION

As mentioned above, the direction of electric field in the electromagnetic wave is called its **polarization**. Recall that the electric field in a planar wave always oscillates along one axis. A light of this kind of polarization is called **linearly polarized light**.

Another polarization of particular interest appears when electric field direction rotates as the wave travels through space. For instance, if a wave is traveling in the positive x -axis direction, electric field direction may rotate in time either clockwise or counterclockwise as seen from the x -axis (Fig. 4.7). The light with clockwise and counter-clockwise rotating electric field are called **right-circularly polarized** and **left-circularly polarized** light respectively. While the commonly available Polaroid glasses create plane polarized light, the circularly polarized light are generated when light passes through certain optical active media such as sugar and aminoacids.

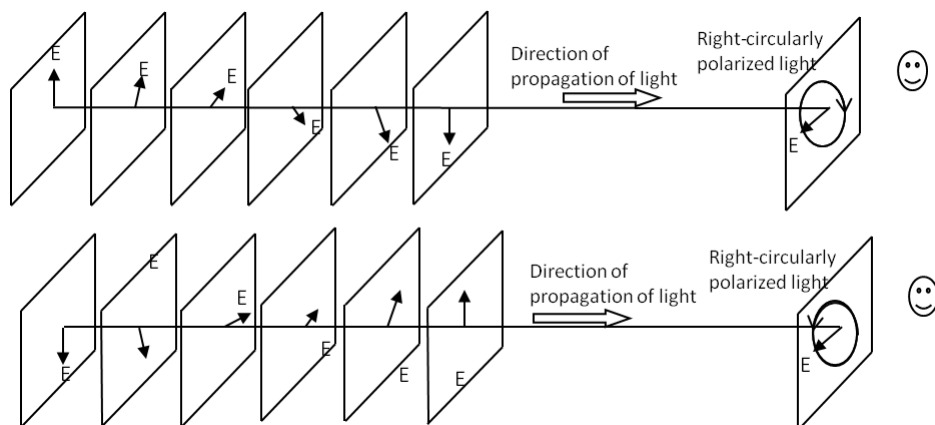


Figure 4.7: Right and left circularly polarized light. Labeling typo: The lower figure is left-circularly polarized.