

fering in phase by half an undulation, and which therefore (by what we have before shown) compound a single ray polarized in a plane half-way intermediate, or 45° inclined to the original plane of polarization; whereas a ray of ordinary light so transmitted would show no signs of polarization in any one plane more than in any other.

(159.) The most remarkable cases of circular polarization, however, are those which occur when a ray is transmitted along the optic axis of a crystal of quartz, and some few other crystals, as also through certain liquids. The phænomena so exhibited cannot be explained, or even described, however, till we shall have said something

OF THE COLOURS EXHIBITED BY CRYSTALLIZED PLATES
ON EXPOSURE TO POLARIZED LIGHT.

(160.) *Uniaxal crystals.*—If a plate cut from a crystal of Iceland spar, so as to have its faces perpendicular to the axis of the primitive rhomboid, be placed close to or very near the eye; and before it a tourmaline plate having its axis vertical, so as to polarize all the light incident upon it in vertical planes passing through the eye; and if any brightly illuminated white surface, such as a white cloud, or a sheet of paper laid in the sunshine, be viewed through it: or if, instead of a tourmaline plate, a “polarizing frame” of glass plates, such as above described, be laid horizontally, and the reflexion of a *clouded* sky be in like manner viewed through the crystal; in the “polarized field” so obtained nothing