

## ABSTRACT

### THE INTENSITY OF THE SUPERNUMERARIES OF LOW ORDER RAINBOWS BY POLARIZED LIGHT

The first six rainbows and their supernumeraries from a continuous stream of water were examined experimentally with polarized monochromatic light at wavelengths of 532 nm and 632 nm. The light was scattered and generated one component of the widely observed rainbow that is seen in nature. The intensity of the scattered light was recorded with respect to the angle of deviation from the incident beam. The supernumerary arcs of the first six rainbow patterns were measured for incident light that was polarized parallel and perpendicular to the plane of incidence. Upon completion of the experiment it was found that the Debye theory of the rainbow gave a better representation of the intensity distribution for the experimental data for both parallel and perpendicular polarized light.

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