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Natures optics and our understanding of light

Michael Berry, University of Bristol, UK

Optical phenomena visible to everyone abundantly illustrate important ideas in science and mathematics. The phenomena considered include rainbows, sparkling reflections on water, green flashes, earthlight on the moon, glories, daylight, crystals, and the squint moon. The concepts include refraction, wave interference, numerical experiments, asymptotics, Regge poles, polarization singularities, conical intersections, and visual illusions.