

Abstract

The disclosure provides a myopia prevention and control spectacle lens with fractal microstructure, which belongs to the design and processing technical field of optical lenses. The spectacle lens comprises a lens base, on which an optical zone and a control zone are provided. The optical zone includes a central optical zone, which is a region with a radius of $R1$ centered at the central position of the spectacle lens. The control zone surrounds the outer side of the central optical zone. In the control zone, there are microstructures formed by fractal curves or fractal patterns on the plane of the lens base, or microstructures formed by fractal curves or fractal patterns between the layers of the lens base. The present disclosure enhances the degree of optical perturbation by increasing the complexity of the peripheral microstructures as much as possible, thereby interfering with the process of myopia progression. (Fig.1)