

Supplementary material

Based on our prior study [1], the linear regression model fitting the left ppRPE/BM layers could be determined as:

$$y = \beta_1 \times x + b_1 \text{ (pixel)} \quad (1.1)$$

The model was developed based on a coordinate with the origin at the upper left corner. For the new coordinate with the origin at the midpoint of the scan, the model was then transferred by shifting the x coordinate to the midpoint of the scan shown as below:

$$y = \beta_1 \times (x + 938) + b_1 \text{ (pixel)} \quad (1.2)$$

Similarly, that for the right ppRPE/BM layer is determined as:

$$y = \beta_2 \times x + b_2 \text{ (pixel)} \quad (1.3)$$

The model with the origin of the coordinate transferred to the midpoint of the scan as below:

$$y = \beta_2 \times (x - 488) + b_2 \text{ (pixel)} \quad (1.4)$$

By solving the simultaneous equations (1.2) and (1.4), we could determine the eccentricity (ϵ) which equals to the x coordinate value of the intersection point (noting that 1 pixel equals $3.2 \mu\text{m}$), as below:

$$\epsilon = \frac{b_1 - b_2 + \beta_1 \times 938 + \beta_2 \times 488}{\beta_2 - \beta_1} \times 0.0032 \text{ (mm)} \quad (1.5)$$

Based on such definition, the eccentricity is positive when the intersection point was close to the temporal side (e.g., Figure S1b).

Reference

- [1] Dong ZM, Wollstein G, Schuman JS. Clinical utility of optical coherence tomography in glaucoma. *Investig Ophthalmol Vis Sci.* 2016;57(9):OCT556–67.

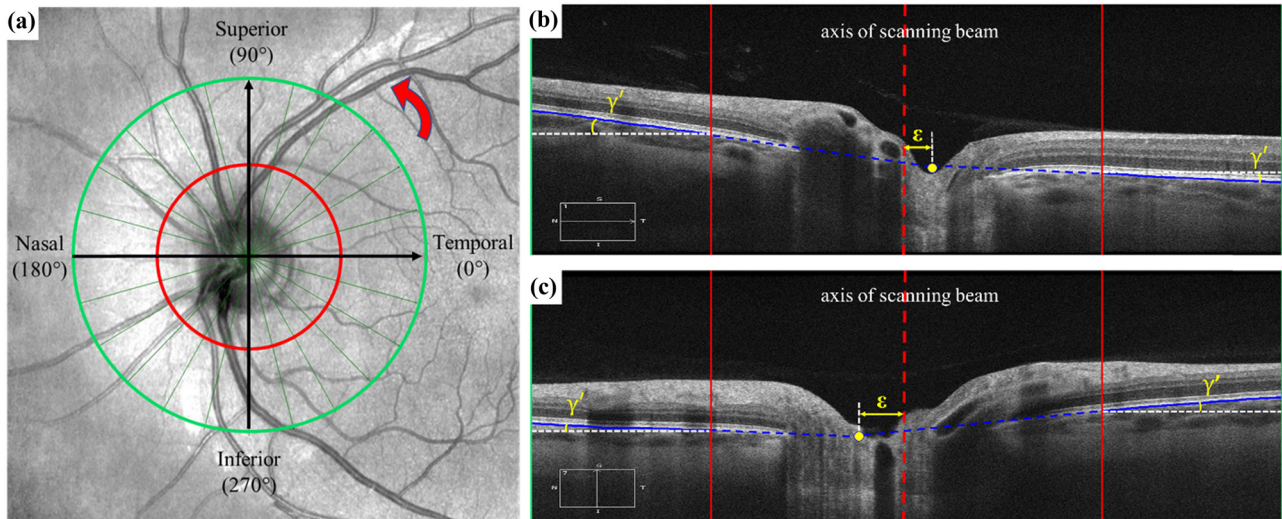


Figure S1: (a) Enface projection of the radial OCT centered over the optic disc. Twelve radial scans (green line) were acquired for each optic disc. The black arrow line indicates the position of the corresponding scan in panel B (nasal-temporal direction) and panel C (superior-inferior direction). The red circle marks the inner boundary of the peripheral region of the optic disc for segmentation, and the green circle marks the outer boundary of the OCT scan. The radial position of the scan was assigned counterclockwise (marked with red circle arrow) starting from 0° at the temporal direction. (b) The ppRPE/BM layer angle (γ') and the eccentric distance (ϵ) in OCT scan at the nasal-temporal direction. (c) The ppRPE/BM layer angle (γ') and the eccentric distance (ϵ) in OCT scan at the superior-inferior direction. In panels B and C, the red line marks the inner boundary of the ppRPE/BM layer, and the green line marked the outer boundary of the ppRPE/BM layer. The solid blue line indicates the portion of the ppRPE/BM layer analyzed in this study, and the dashed blue line marks the extension of the ppRPE/BM layer. The dashed red line indicates the axis of the scanning beam. The solid yellow dot is the intersection point of the two extended lines (dashed blue line) of the ppRPE/BM layer.

