Automated Assessment of Optic Nerve Head with Spectral Domain Optical Coherence Tomography

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Technology description

In this invention, a fully automated optic nerve head (ONH) assessment system is designed and developed based on spectral domain optical coherence tomography (SDOCT), with the aim to provide essential disc parameters for clinical analysis, early detection and monitoring of the progression for glaucoma and other optic nerve head diseases. The system can automatically provide subjective and reliable results of ONH evaluation. The input comprises from three dimensional (3D) OCT image taken from SDOCT.

Application area

1) Clinical analysis for the early detection and monitoring of the progression of glaucoma and other optic nerve head diseases

Advantages

1) Provides a high resolution 3D ONH model, details of ONH structure can be quantified and analyzed
2) Automatically detects the disc margin
3) Uses more stable retinal layer (RPE layer) to estimate the cup margin
4) Generates a point distribution model to classify the image as normal or abnormal both globally and locallyNon

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