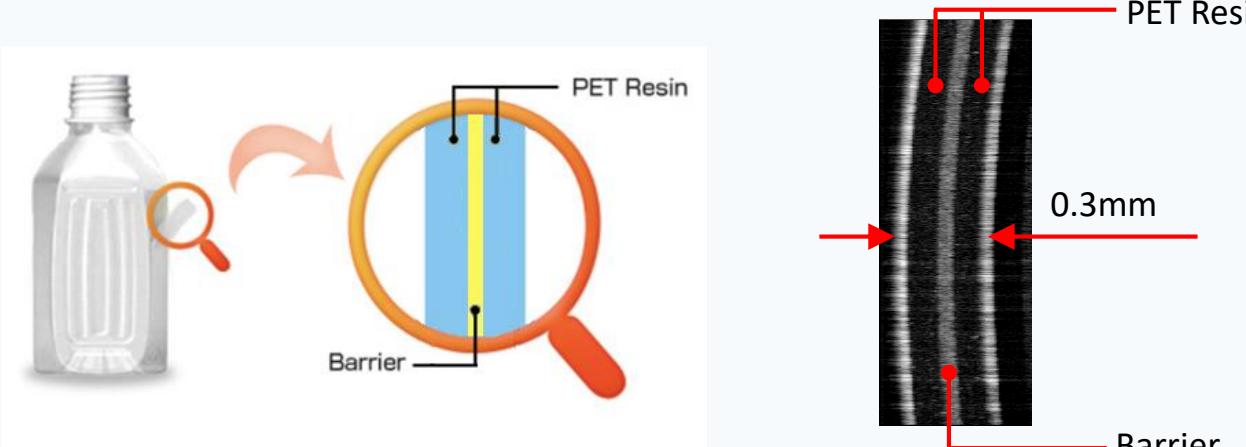




Tunable Lasers & Swept-Source Optical Coherence Tomography (SS-OCT)



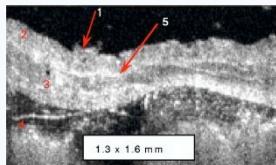
SS-OCT

- ❖ Real time, 3D imaging technique
- ❖ Visualize subsurface features
- ❖ Non contact & Non-invasive
- ❖ High resolution, 10 μm

Medical Applications

sante

Oral



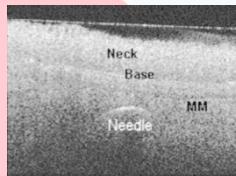
Petra Wilder-Smith, et al.
J. of Biomedical Optics Sep/ 2005 Vol.10 No.5

Dental

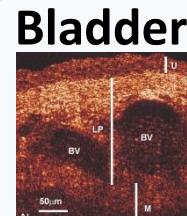


Pier Alberto, et al.
J Pancreas (Online)
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Stomach

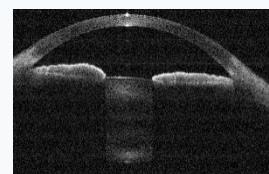


Yonghong He, et al.
J. of Biomedical Optics
Jan/ 2004 Vol.9 No.1



Ying T. Pan, et al.
J. of Biomedical Optics
Sep/ 2007 Vol.12 No.5

Ophthalmic

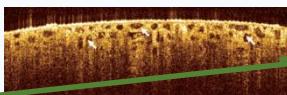


Cardiovascular



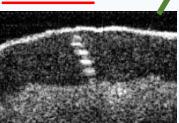
Guillermo J. Tearney, et al.
J. of Biomedical Optics
Mar/ 2006 Vol.11 No.2

Kidney



Yu Chen, et al.
J. of Biomedical Optics
Sep/ 2007 Vol.12 No.3

Skin



Bradley A. Bower., J. of Biomedical Optics,
Jul/ 2007 Vol.12 No.4

Brain



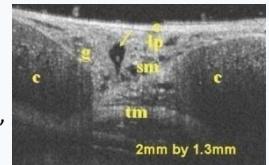
Kostadinka Bizheva, et al.,
J. of Biomedical Optics,
July/ 2004 Vol.9 No.4

Esophagus



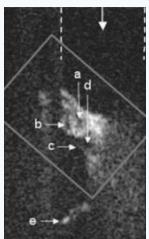
Z.P.Chen, et al.,
Opt. Express, Aug/ 2007
Vol. 15 No. 16

Trachea



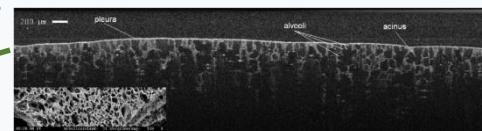
Matthew Brenner, et al.,
J. of Biomedical Optics,
Sep/ 2007 Vol.12 No.5

Cochlea



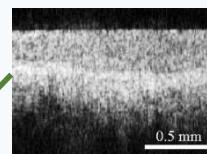
Fangyi Chen, et al.,
J. of Biomedical Optics,
Mar/ 2007 Vol.12 No.2

Lung



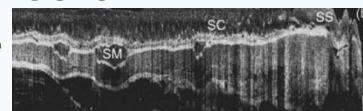
Alexander Popp, et al.,
J. of Biomedical Optics, Jan/ 2004
Vol.11 No.1

Cervix



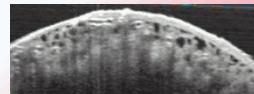
Ilya V. Turchin, et al.,
J. of Biomedical Optics,
Nov/ 2005 Vol.10 No.6

Colon



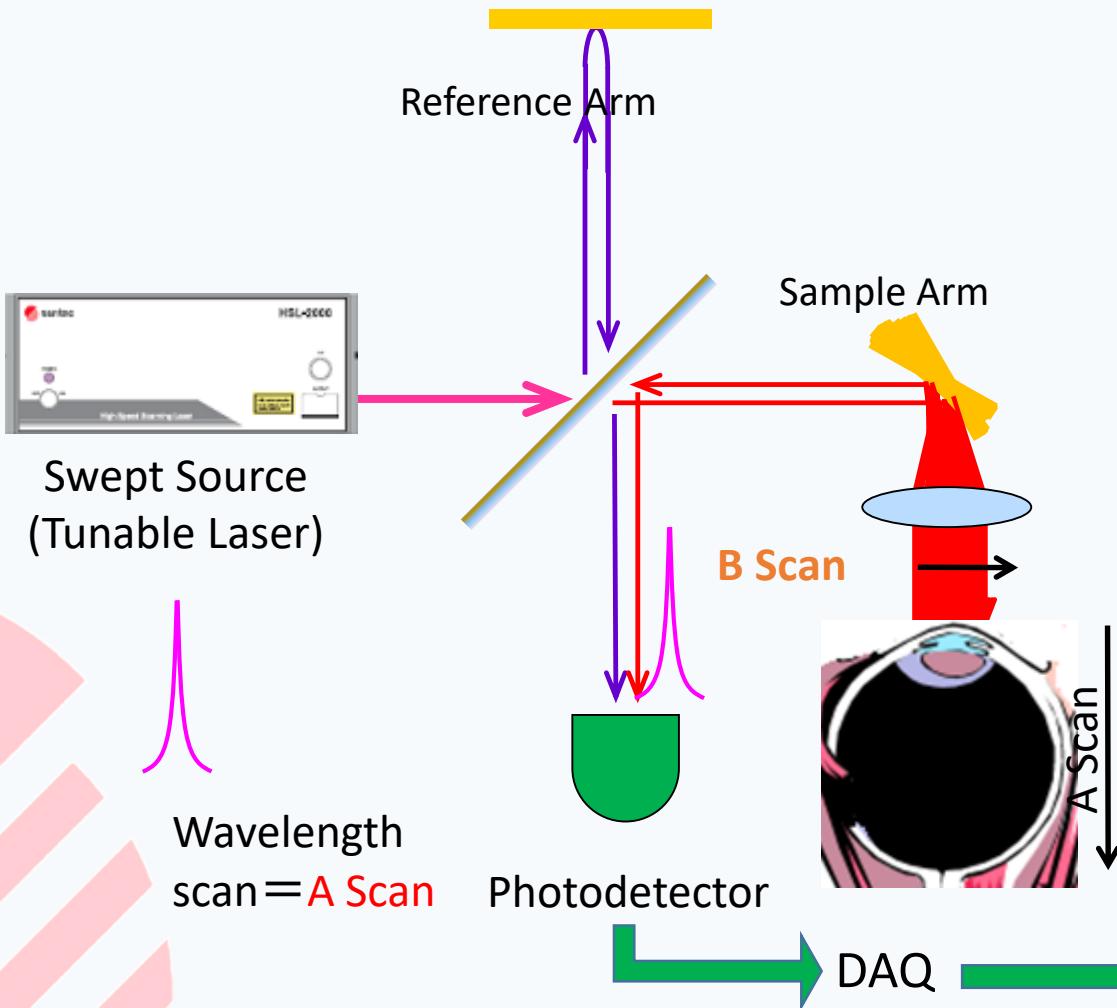
Alexandre R. Tumlinson, et al.,
J. of Biomedical Optics,
Nov/ 2006 Vol.11 No.6

Bone

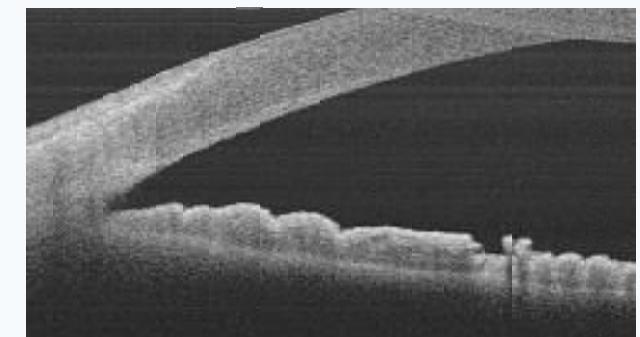


Swept-Source OCT (SS-OCT)

Operating Principle



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Anterior chamber



Fast Fourier Transform (FFT)

SS-OCT Product Range



IVS-2000

Modular OCT system for research applications.
($1\mu\text{m}$ & $1.3\mu\text{m}$)

Components

- Scanning lasers
- Interferometers
- Balanced Photodetector



- Data acquisition cards (DAQ)
- OCT acquisition software
- Probe with scanner



Argos

Clinically approved biometer.

Photonics Pioneer

World's first commercial Tunable Laser in 1986

First commercial swept-source laser in 2005

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Leading Company for Ophthalmic SS-OCT

- ❖ Over 8,000 swept-source lasers shipped.
- ❖ 6 out of 9 FDA approved SS-OCT systems use Santec's OCT engine.
(Ophthalmology, Endoscopy, Dermatology, Cardiovascular imaging)
- ❖ Santec holds more than 80 patents for swept-source lasers and SS-OCT.
- ❖ ISO 9001, ISO 14001 & ISO 13485 manufacturing.



Slide 6



Thank you

Merry Christmas

&

Prosperous New Year

David Heard

david@santec.com

+44 1235-250010

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