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Outlook into the Future of Workflow and Quality Management

Toric Solution

Z CALC and Z ALIGN

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Kassel 13.03.2010

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AUGENKLINIK DARDENNE

Breyer Augenchirurgie

AugenLasik Düsseldorf · An den Schadow Arkaden

After The Pioneer Work:
Improvement of Workflow and Standardization (QM)

Improvement of workflow:	Z CALC:	online calculation program
Improvement of standardization:	Z ALIGN:	live video IOL orientation

Method - Solution Number 1: Z CALC

- Z CALC is the new **online calculator for toric IOLs from ZEISS**
- It will improve the current calculation workflow
  - Fast, easy, reliable
  - Straight forward results
  - Secured access

Method - Z CALC Applications

- Z CALC is a multilingual online application for CZM toric IOLs Acri.LISA toric & Acri.Comfort calculation for patients undergoing cataract or clear lens extraction surgery. It is not approved for post corneal refractive lens power calculations, for phakic IOL and lens models that have to be implanted in the sulcus or anterior chamber as well as for patients with corneal degenerations or traumas.

Method - Z CALC Instruction for use

- If the value entered is orange it means that you are dealing a non regular eye and the values are close to borders fixed
- The calculator will consider the data it is just to warn you
- If the value is red, it means that we are beyond regular cases
- If you have such a case for a real patient we suggest to follow the old process and forward us the data to our optometrist through your local ZEISS representative

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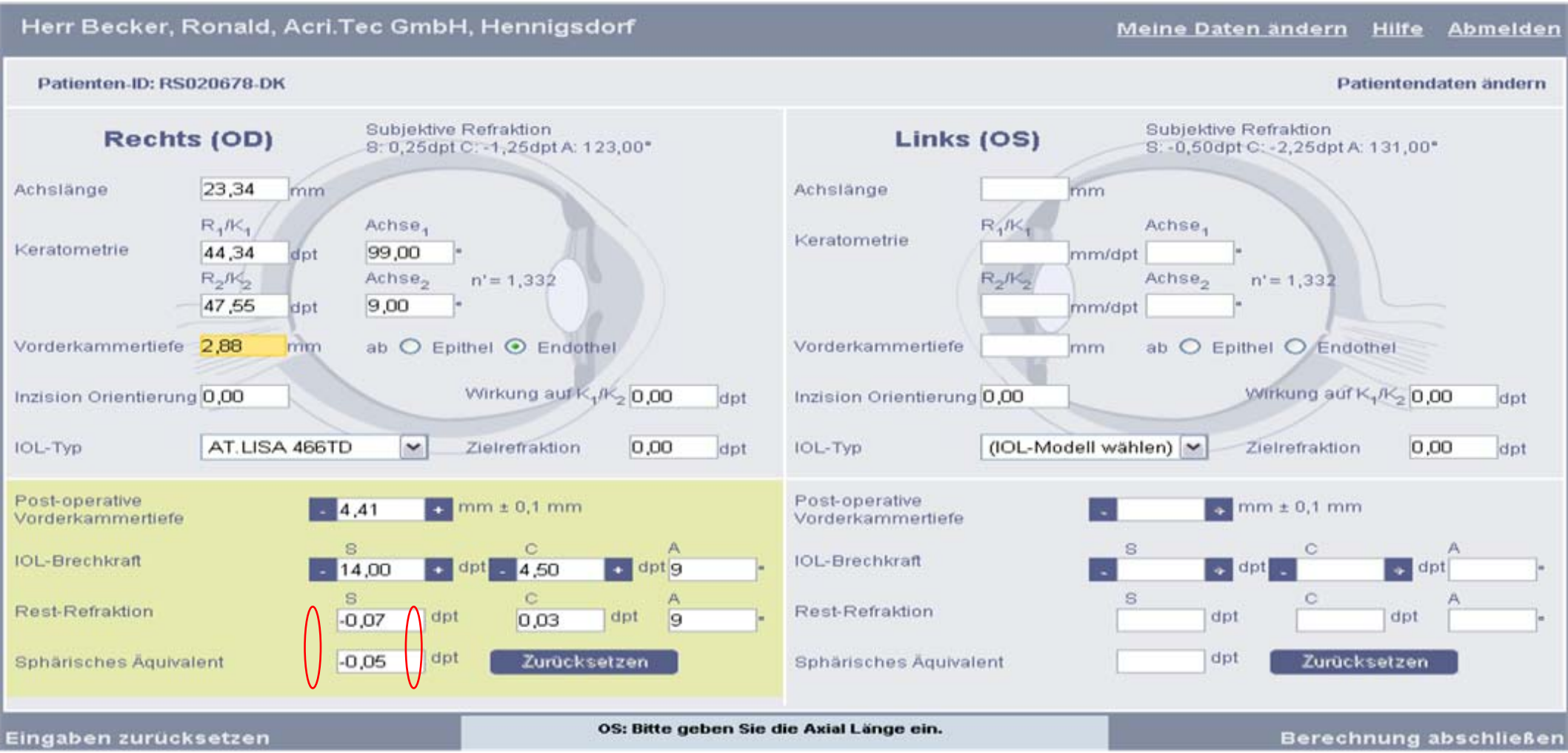
Method - Z CALC Instruction for use

- Possibility to adjust the result with the « + » and « - » buttons



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Method - Z CALC Instruction for use

Herr Becker, Ronald, Acri.Tec GmbH, Hennigsdorf — Meine Daten ändern | Hilfe | Abmelden

Patienten-ID: RS020678-DK — Patientendaten ändern

Not active

	Rechts (OD)	Links (OS)
Subjektive Refraktion	0,25dpt -1,25dpt 123°	
Achslänge	23,34 mm	
Vorderkammertiefe	2,88 mm	
Keratometrie	1,332	
R_1/K_1	7,49 mm 99°	
R_2/K_2	6,98 mm 9°	
Inzision Orientierung	0,00°	
Wirkung auf K_1/K_2	0,00 dpt	
Zielrefraktion	0,00 dpt	
Post-operative Vorderkammertiefe	4,41 mm	
IOL-Brechkraft	14,00 dpt (4,50dpt 9°)	
Rest-Refraktion	-0,07 dpt (0,03dpt 9°)	
Sphärisches Äquivalent	-0,05 dpt	
IOL-Typ	**AT.LISA 466TD**	**IOL-Typ**

Folie drucken — Folie drucken

Bestellmenge 2 — OP-Termin 23.07.2009 — Bestellmenge — OP-Termin

Drucken | Speichern | Senden

Berechnung ändern — Neue Berechnung

Method - Z CALC Characteristics

- You can save the PDF file under your own PC (as backup)
- **You can print the order request and fax it to your local ZEISS organization**
- Submitting button will not be active
- Print our screen transparency

Conclusion - Z CALC

Z CALC is an easy to handle and necessary online tool for the calculation of toric IOL

Method: Solution Number 2: Z Align
CZM High Tech Tool for T-IOL-Alignment

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Purpose:

When inserted in to the patient's eye, the toric IOL needs to be rotated to a certain target angle with precision to correct for the patient's astigmatism.

Application principle (workflow):

1. Target angle is determined by diagnostic tools (e.g. Keratometry / IOL-Master, calculation (Z CALC))
2. Before surgery the reference axis for target angle is marked by the doctor on the patient's eye (see Fig. 1, next slide)
3. Toric IOLs contain markers (see Fig. 2, next slide) which need to be aligned with the axis defined by the target angle and the reference axis (= target axis). The following slides (5 ff) show the principle how this alignment is supported by Z ALIGN.

Method: Z Align
CZM Tool for T-IOL-Alignment

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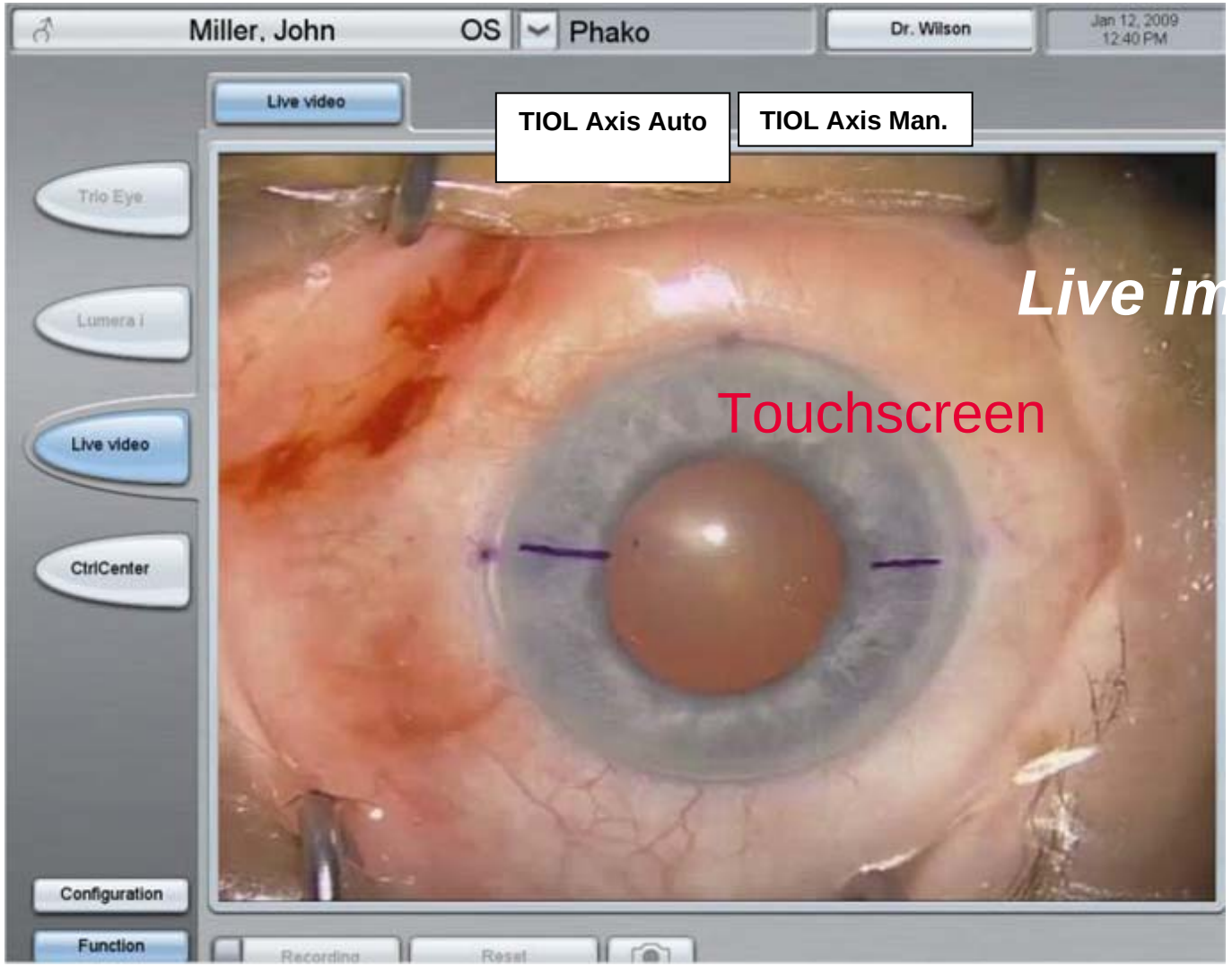
CZM TIOL alignment support:

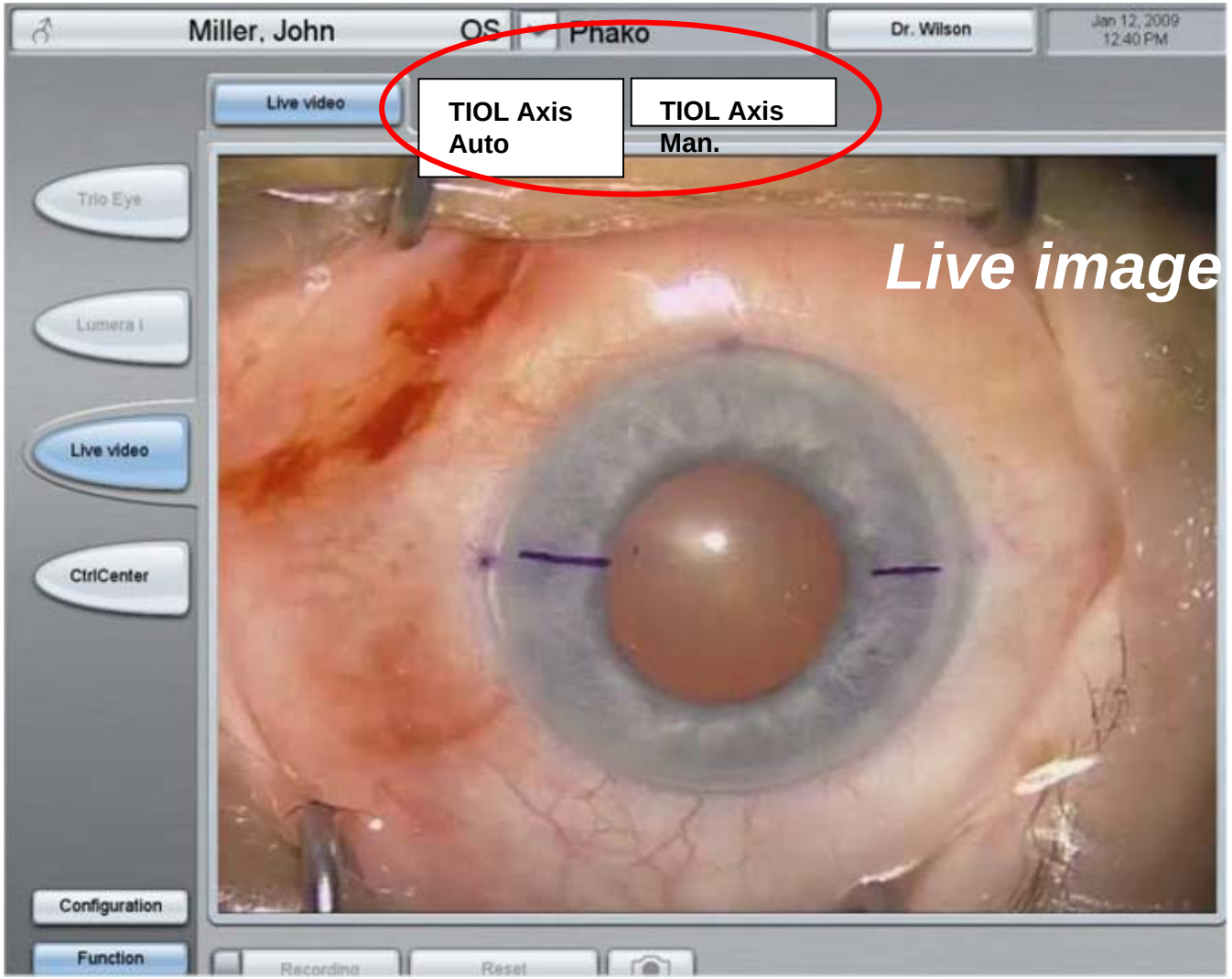
- Use live video image and superimpose reference and target axis
- Surgeons can align TIOL with target axis under visual control

Method: Z Align
CZM Tool for T-IOL-Alignment



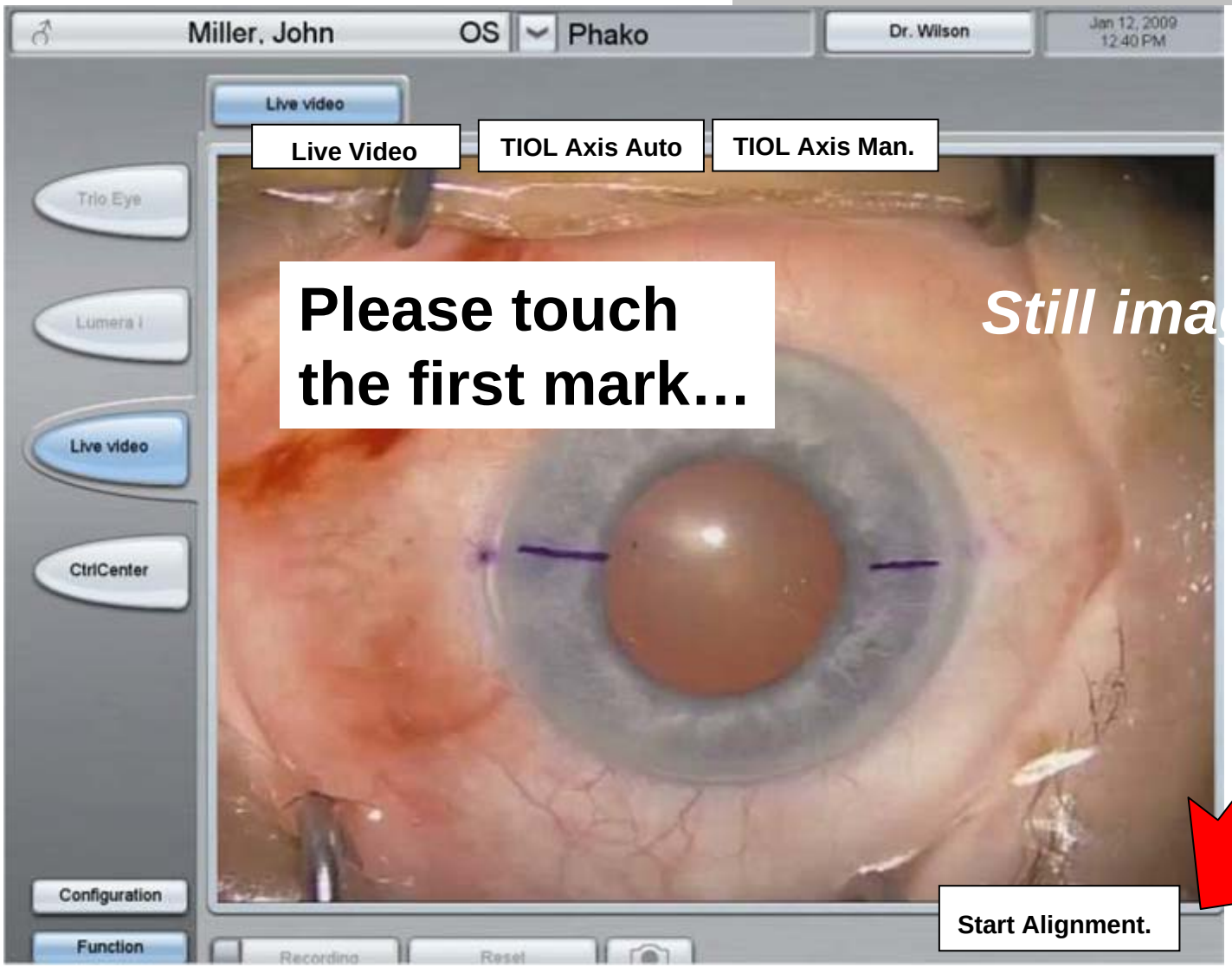
Method: Z Align
CZM Tool for T-IOL-Alignment

Two alignment modes available: Automatic and Manual.
The mode can be selected on separate tabs in the GUI



Method: Z Align
CZM Tool for T-IOL-Alignment

When the „Start…“ button in pressed: Live image freezes. User is asked to touch on one mark in the still image.



Method: Z Align
CZM Tool for T-IOL-Alignment

As soon as user has touched the first mark …

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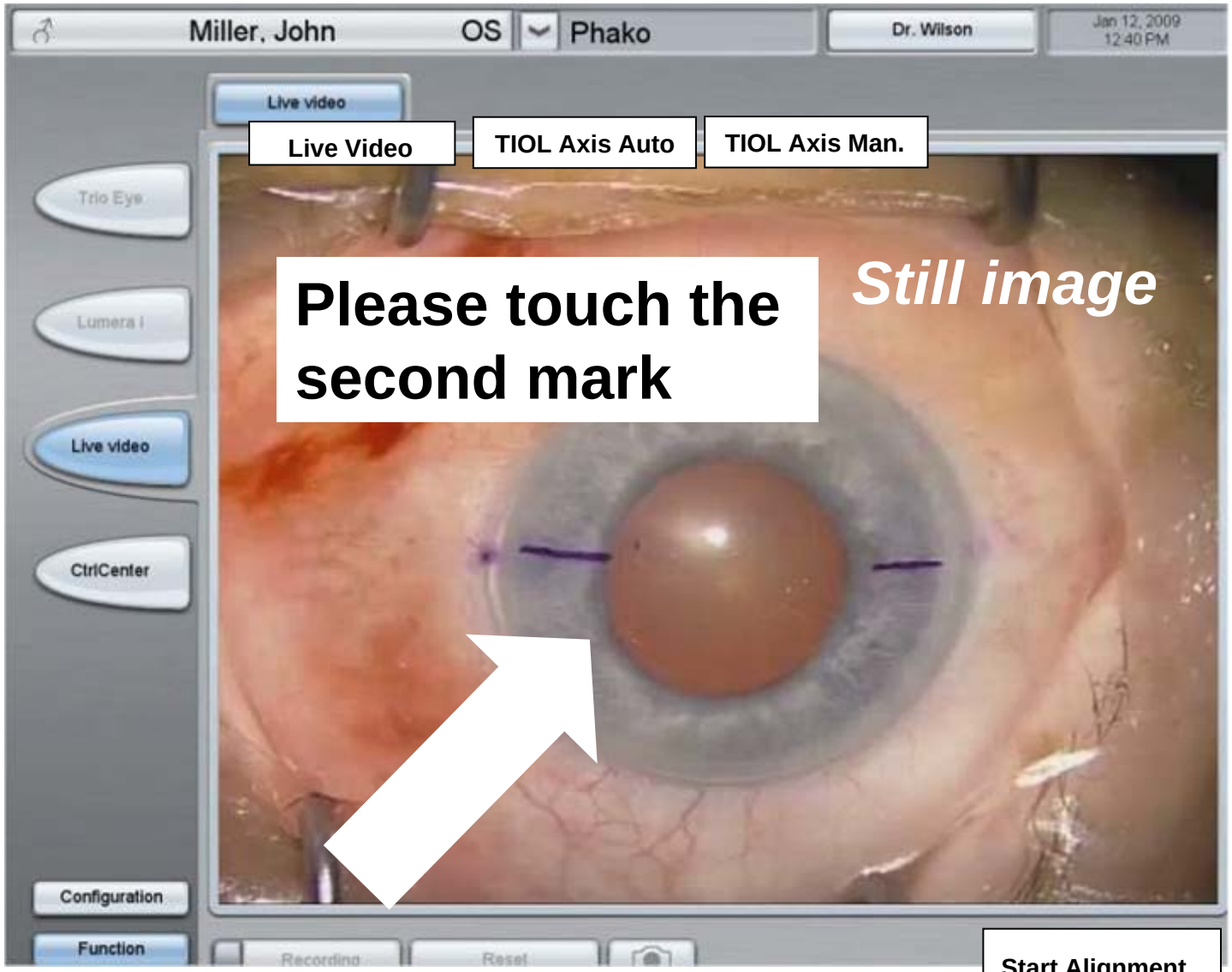
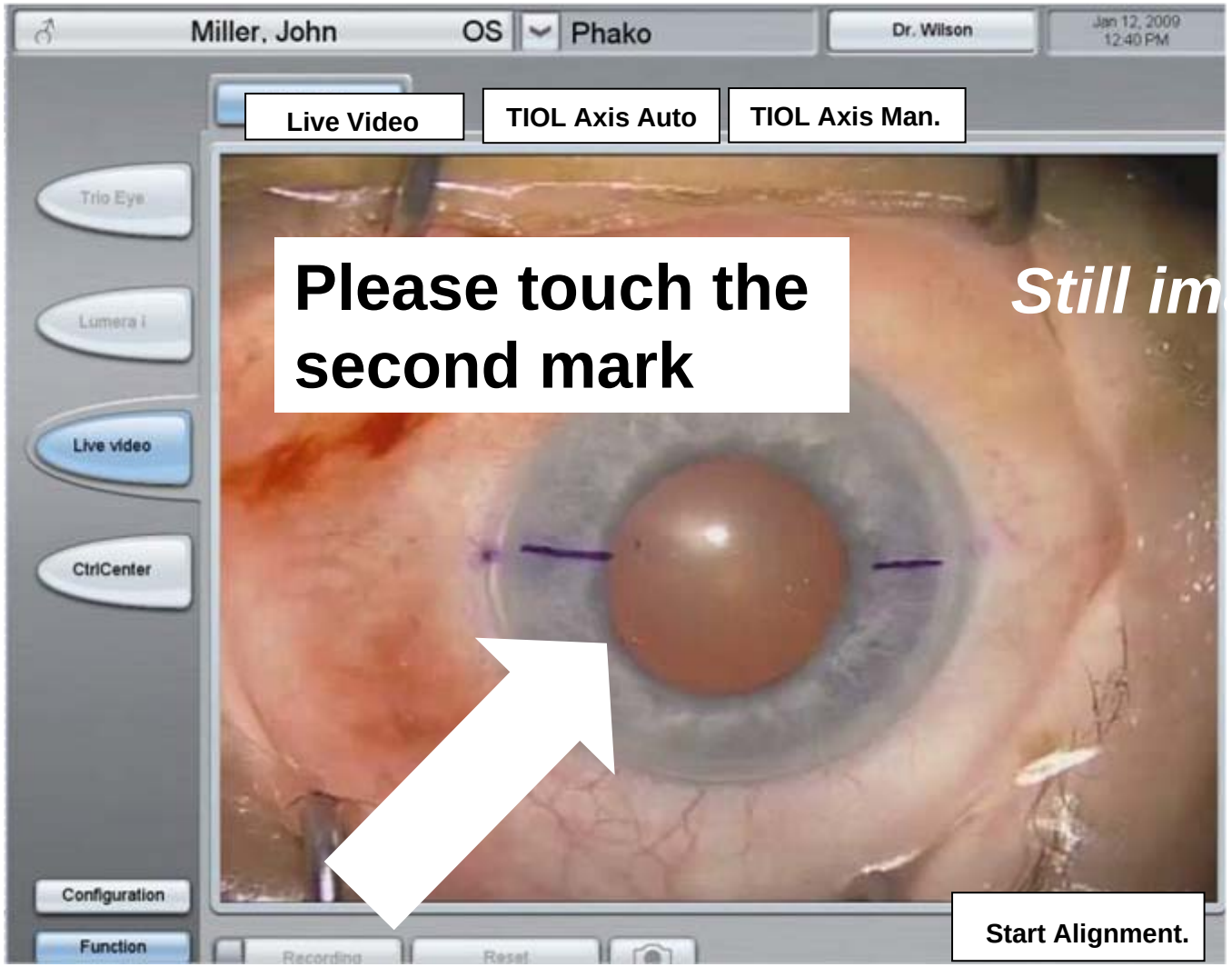
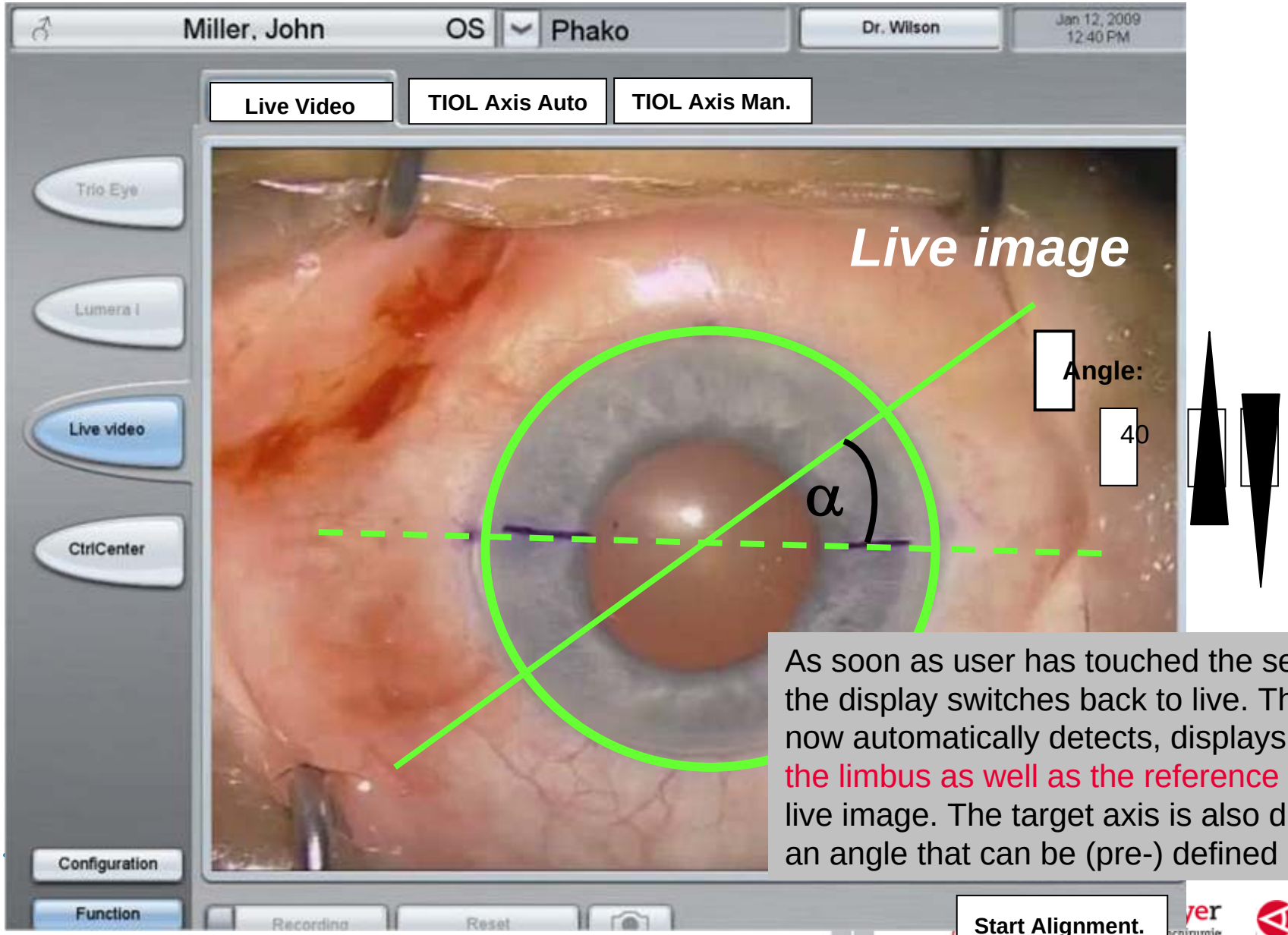


Method: Z Align
CZM Tool for T-IOL-Alignment

… he will be asked to touch the second mark.



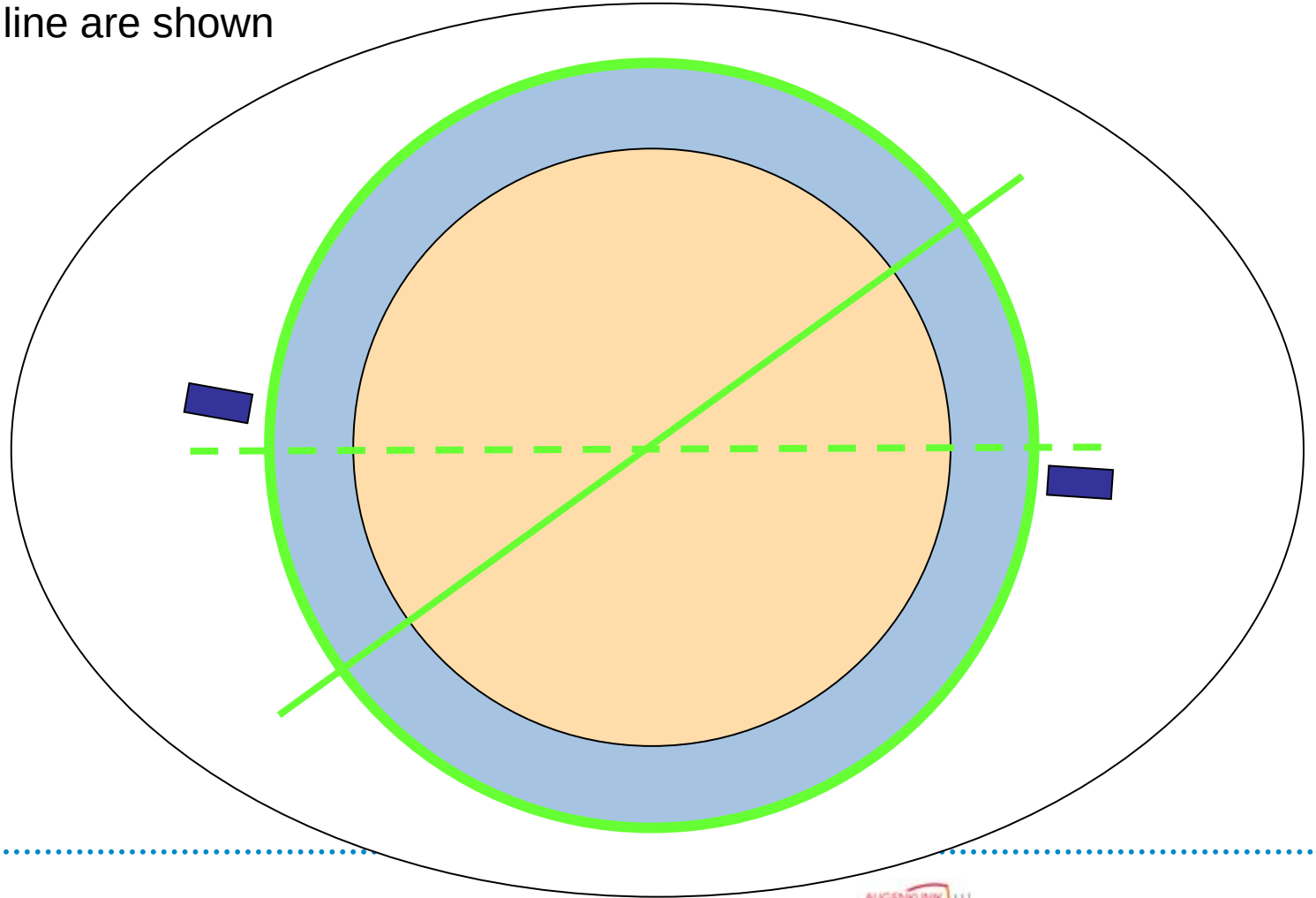
Method: Z Align
CZM Tool for T-IOL-Alignment



As soon as user has touched the second mark the display switches back to live. The software now automatically detects, displays and tracks the limbus as well as the reference axis in the live image. The target axis is also displayed with an angle that can be (pre-) defined by the user.

Method: Z Align
CZM Tool for T-IOL-Alignment

Manual Mode: Eye tracking continuously tracks limbus. Reference line and Target line are shown



Method: Z Align
CZM Tool for T-IOL-Alignment

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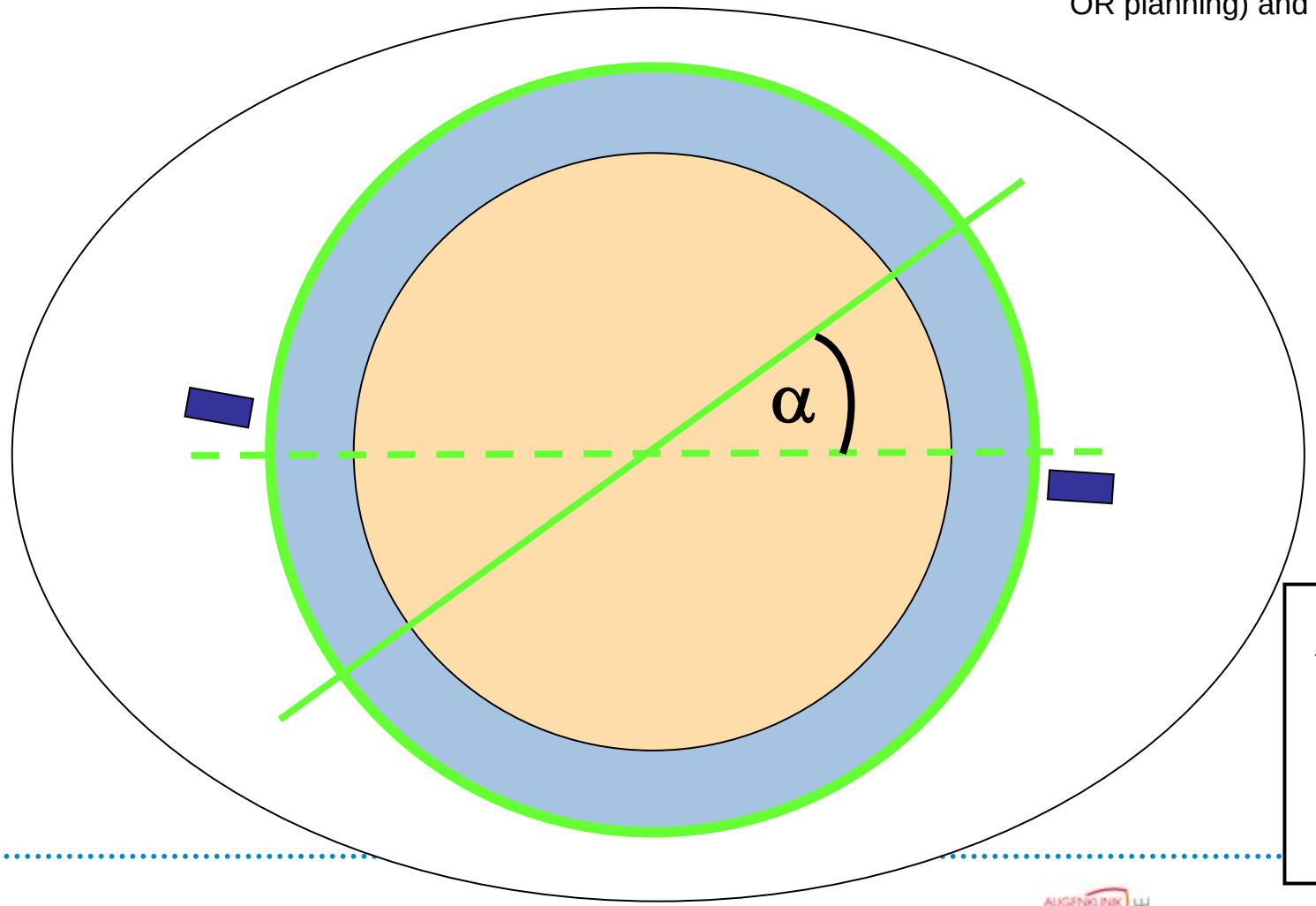
Reference line and Target line can be adjusted

The angle is predefined (during OR planning) and can be modified



Angle:

40

Method: Z Align
CZM Tool for T-IOL-Alignment

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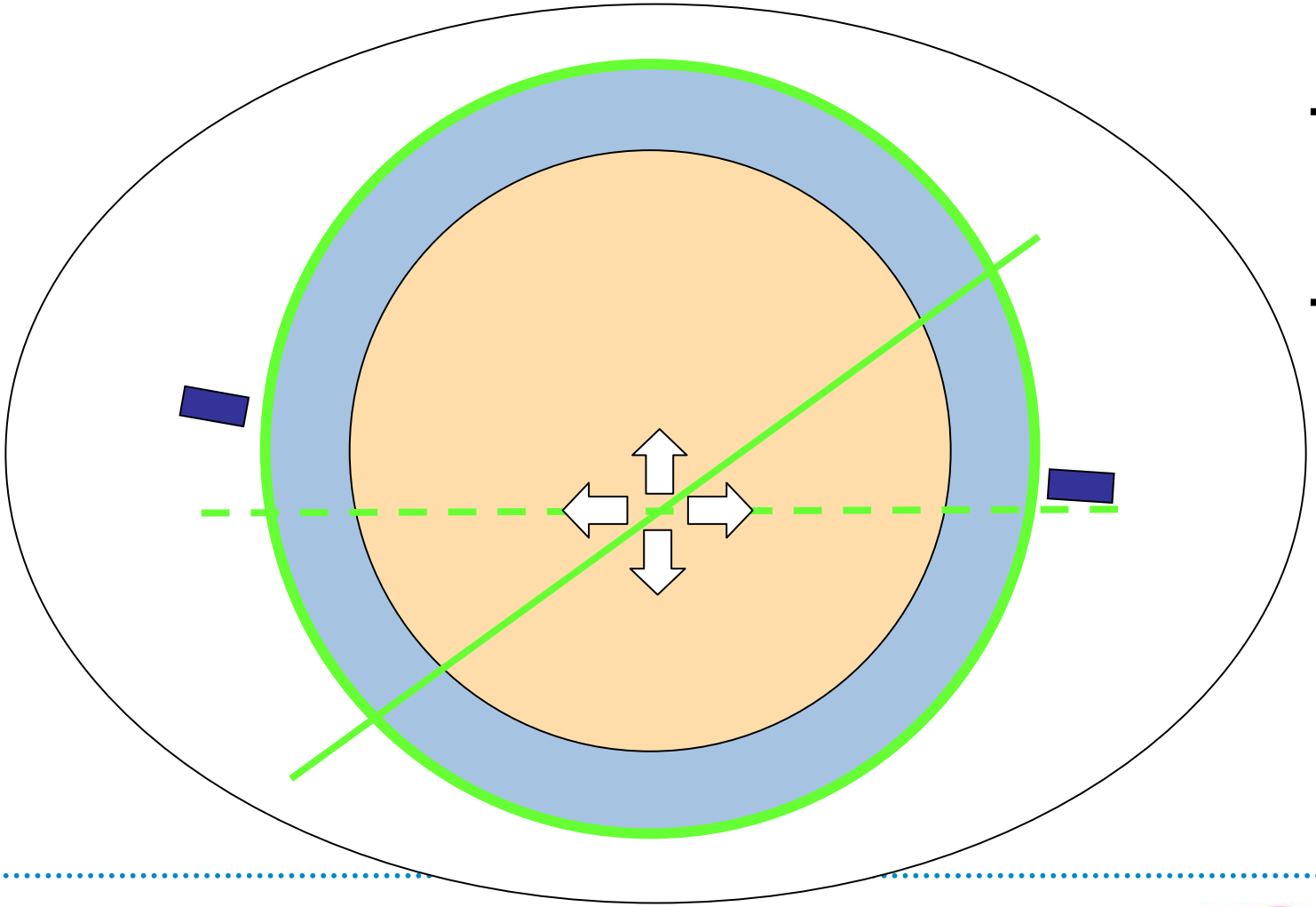
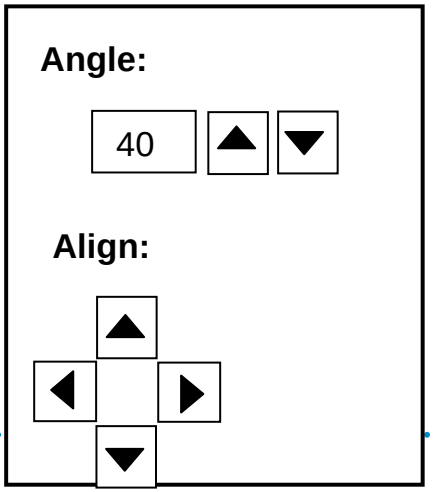
Reference line and Target line can be adjusted



- The angle is predefined (during OR planning) and can be modified
- Positioning of reference and target line (intersection) is always relative to the detected limbus …
- … and can be adjusted horizontally and vertically



Method: Z Align
CZM Tool for T-IOL-Alignment

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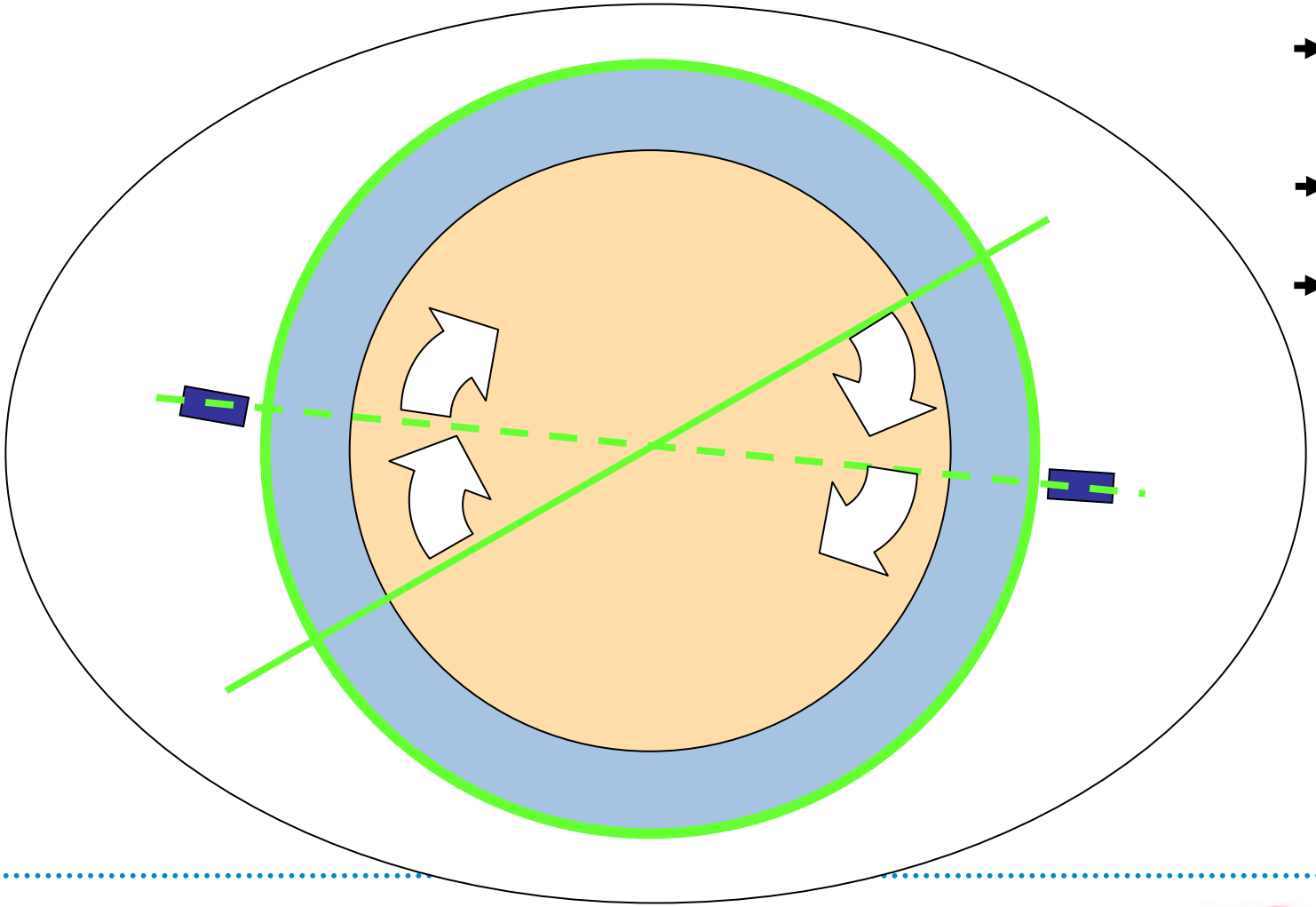
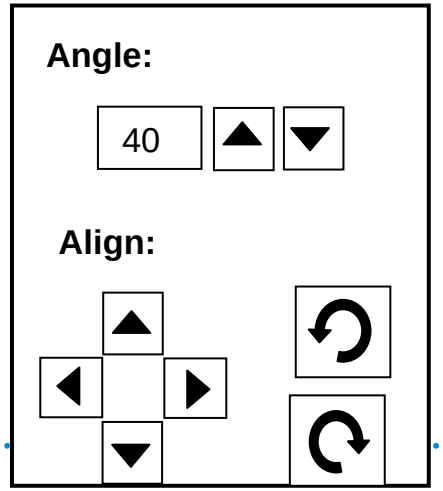
Reference line and Target line can be adjusted

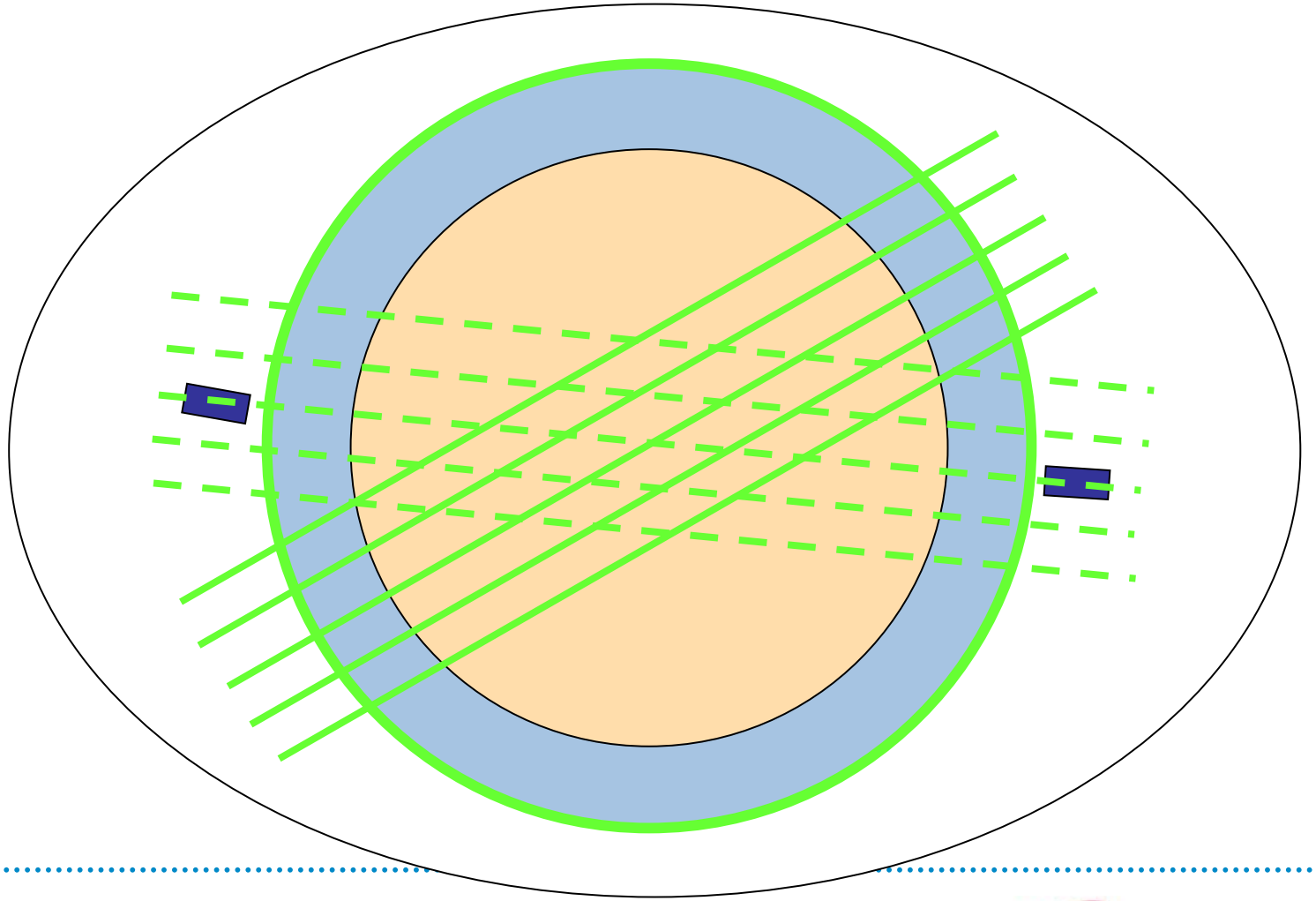


- The angle is predefined (during OR planning) and can be modified
- Positioning of reference and target line (intersection) is always relative to the detected limbus …
- … and can be adjusted horizontally and vertically
- … as well as rotated



Method: Z Align
CZM Tool for T-IOL-Alignment

Options → Preconfigurable number of parallel lines



VIDEO WOC 2010

One Zeiss Fits (Nearly) All

Don´t hesitate even to operate on very high astigmatisms and ametropias

CZM is helping us with:

Individualized high quality products

Standards meeting highest Quality management standards

Excellent workflow improving tools

Background - Science v. Art

“ I´m the first to admit... the use of toric IOL is science....whereas corneal incicions are an inexact art...”

Robert H. Osher in CRST 2009

Take Home Message

ZEISS Toric MICS (M)IOL are very advanced of highest proven quality and an absolute must for phacorefractive surgeons who want to have the best care for their patients

Which other company offers you such an outstanding customized IOL + workflow + quality management system?

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Thank You....

Very much for your kind attention !

„All truths are easy to understand once they are discovered; the point is to discover them“
Galileo Galilei

„A discovery is said to be an accident meeting a prepared mind“
Albert Szent-Gyorgyi