2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

BE

3. PRESENTATION PREFERENCE (REQUIRED) Check one:
☒ Paper
☐ Poster
☐ FAST Paper

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee"

Luciana de Matos

Scientific Section Descriptions (two-letter code):

(BE) OCULAR BIOENGINEERING
(CO) CORNEA AND EXTERNAL DISEASE
(CA) CATARACT
(EF) ELECTROPHYSIOLOGY
(EP) EPIDEMIOLOGY
(EX) EXPERIMENTAL SURGERY
(GL) GLAUCOMA
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(OR) ORBIT
(PL) OCULAR PLASTIC SURGERY
(PH) PHARMACOLOGY
(RE) RETINA AND VITREOUS
(RS) REFRACTIVE SURGERY
(RX) REFRACTION-CONTACT LENSES
(ST) STRABISMUS
(TR) TRAUMA
(TU) TUMORS AND PATHOLOGY
(UV) UVEITIS
(US) OCULAR ULTRASOUND

Deadline: Oct 13, 2009

FORMAT:
Abstract should contain:
**Title**
**Author, Co-authors (maximum 6),**
**Purpose, Methods, Results,**
**Conclusion.**

Poster guidelines:
ARVO Abstract Book (1.10 x 1.70m)

38.     FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

( ) R1      ( ) R2      ( ) R3          ( ) PIBIC
( ) PG0    (X) PG1      ( ) Fellow      ( ) Technician

Last Name:  de Matos
First Name: Luciana
Middle:

Service (Sector):    (BE) Ocular Bioengineering

CEP Number:        1914/07

5. ABSTRACT:

### PRELIMINARY RESULTS OF AN ALGORITHM FOR CUSTOMIZED SOFT CONTACT LENS ABLATION

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2 Ophthalmic Optic Group, Physics Institute of São Carlos, University of São Paulo (USP)

**Purpose**: To develop a computer simulation for customized soft contact lenses in order to correct aberrations of higher order. **Methods**: Using real data from a patient diagnosed with keratoconus, which was measured using a Hartmann-Shack wavefront sensor, the thickness of the contact lenses that compensate these aberrations as well the numbers of pulses required to ablate the lenses were specifically determined for the patient. **Results**: The maps of correction are presented and the numbers of pulses are calculated, using a 0.5 mm beam width and a 0.3 $\mu$m ablation depth. **Conclusion**: The simulated results are promising at this stage of our work. In the next step, other practical characteristics of the laser will be considered as a previous phase for the construction of the ablation instrument. We expect to obtain results even closer to those of the simulation phase obtained here.

**Keywords:** Algorithms, Computer simulation, ablation, contact lenses.

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