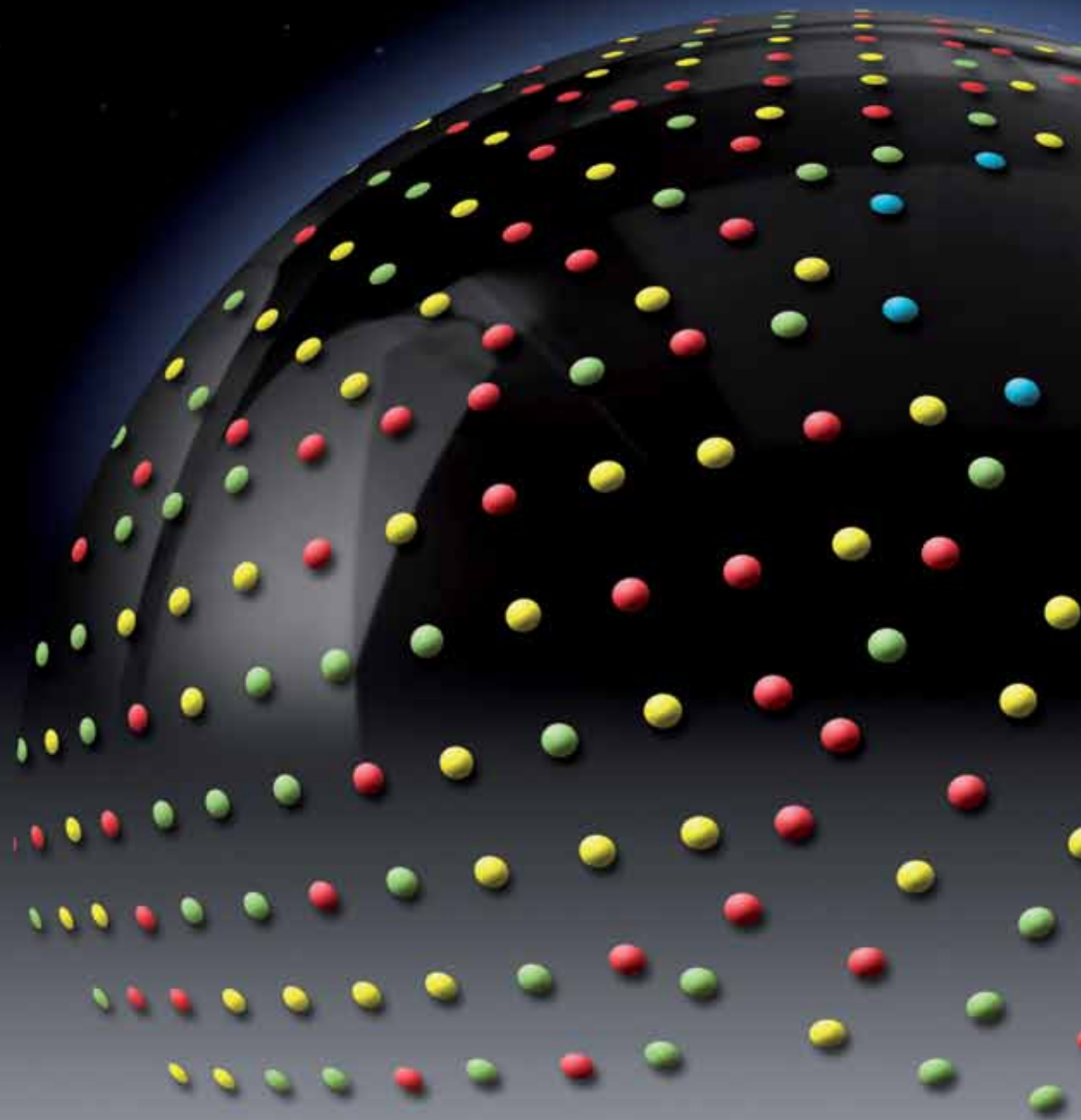
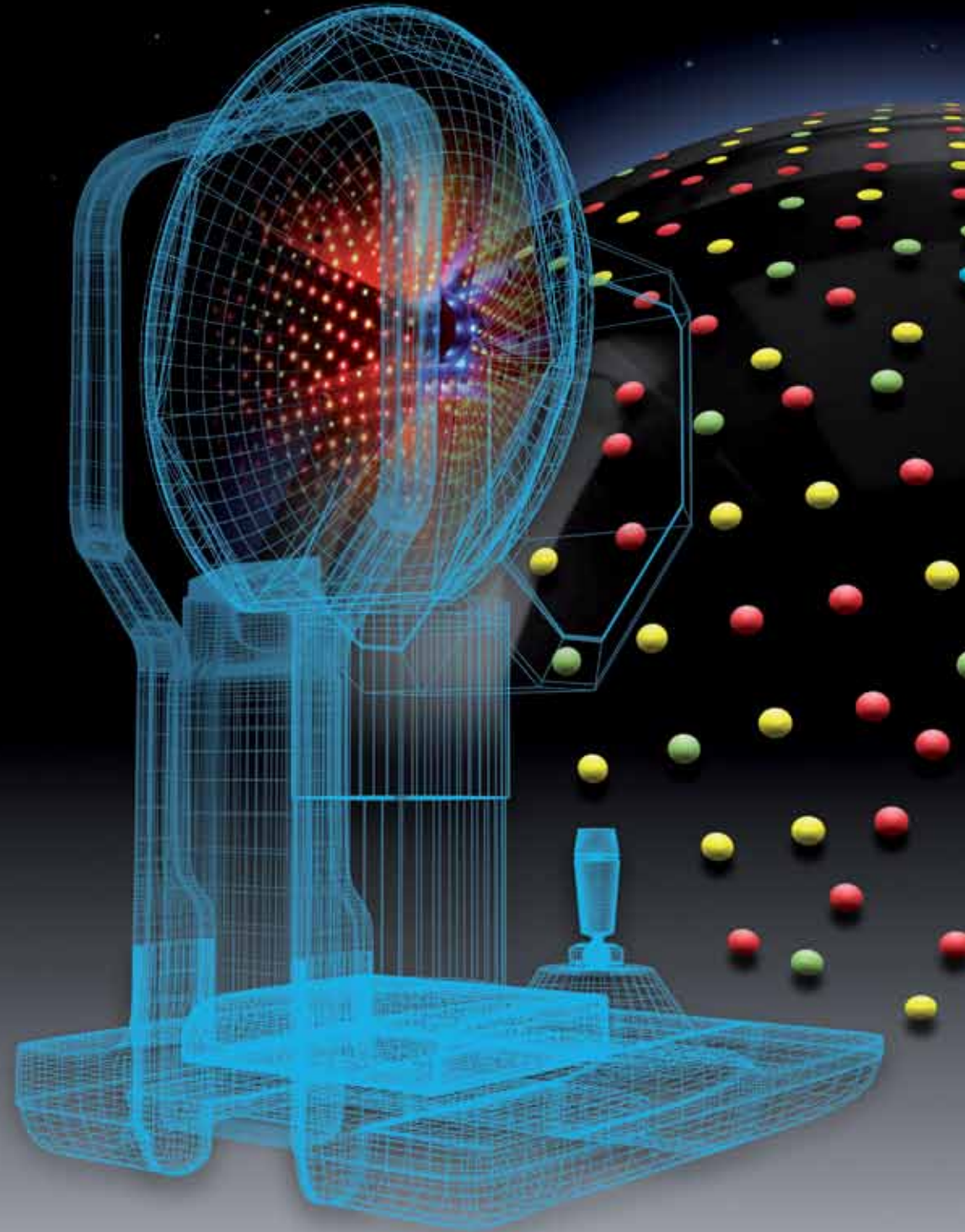


color
led
topography



Visualize a revolution with Cassini



Cassini: a revolution in the making

Meet Cassini, the first corneal topographer to employ breakthrough Color LED Topography (CLT) technology. The first to deliver submicron accuracy and unprecedented precision¹. The first that is ideal for fitting premium contact lenses, the early diagnosis of corneal diseases including keratoconus, and planning corneal surgery.

Co-developed with Amsterdam VU Medical Center, Cassini uses 672 LEDs in place of the traditional Placido rings². The result is a new level of accuracy and precision in corneal height measurement. The benefits for you and your patients:

- CLT measures high and low order aberrations with unmatched detail and precision
- Better prescriptions and better vision correction
- Direct line-of-sight measurement with no need to apply corrective algorithms
- Exceptional ease and precision with dry eyes and post-keratoplasty corneas
- Simple, intuitive design that increases patient throughput

About i-Optics

i-Optics pioneers smart and superior eye diagnosis solutions that are fast, easy to use, patient-friendly and accessible. Our innovations include EasyScan, Cassini, and EyePrevent. EasyScan is a zero-dilation breakthrough retinal imaging system that uses Scanning Laser Ophthalmoscope technology to diagnose diabetic retinopathy, age-related macular degeneration, and glaucoma. Cassini is a first-of-its-kind corneal topographer. Employing breakthrough Color LED Topography technology, it supports superior contact lens fitting, earlier keratoconus diagnosis, and could help improve the outcomes of corneal transplants and refractive surgery. EyePrevent is a retinal-disease screening service for diabetic and other patients.

We see things differently

¹Snellenburg JJ, et al; "Forward ray tracing for image projection prediction and surface reconstruction in the evaluation of corneal topography systems" Optics Express 2010;18(18):19324-38.

²Sicam VA, et al; "Stimulator Pattern Density and Precision in Next Generation Corneal Topography" ARVO Meeting Abstracts April 11, 2009 50:5081/D1027.



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Earlier diagnosis of keratoconus

Keratoconus affects approximately three million patients worldwide³. With several new treatment options available today, both early diagnosis and progression monitoring of keratoconus are key to ensuring patients receive the best possible treatment at the right time.

Cassini's CLT technology can potentially detect keratoconus and other corneal irregularities early. Thanks to the unique capability to measure even the smallest aberrations with submicron accuracy and unprecedented precision, fast and easy.

Easy fitting of premium contact lenses

Cassini's CLT technology ensures a better match between cornea and contact lens. It's simply an easier, faster solution for meeting the growing demand for premium contact lenses such as multifocal, toric, aspheric, and ortho-k lenses. And for standard ones.

With Cassini, you can plot the anterior surface of the cornea with superior accuracy and precision⁴. Benefit from direct alignment on the line of sight. Measure the angle and degree of astigmatism more precisely. Measure the periphery of the cornea for a more comfortable lens fit. And eliminate dry-eye blur issues.

Cassini's clinical performance is currently being tested in leading eye healthcare centers.



...and beyond.

Easy and more reliable treatment planning for refractive surgery

Cassini can detect higher order aberrations more precisely than other topographers – enabling more precise treatment planning for refractive surgery.

Future Cassini models will be able to measure the anterior and posterior shape and thickness of the cornea as well as the total refraction of the eye. All in one. By combining CLT technology with a wavefront analyzer and a new i-Optics innovation that measures the posterior cornea shape with the same Cassini accuracy. And all aligned on the line of sight.

More accurate IOL data for cataract treatment

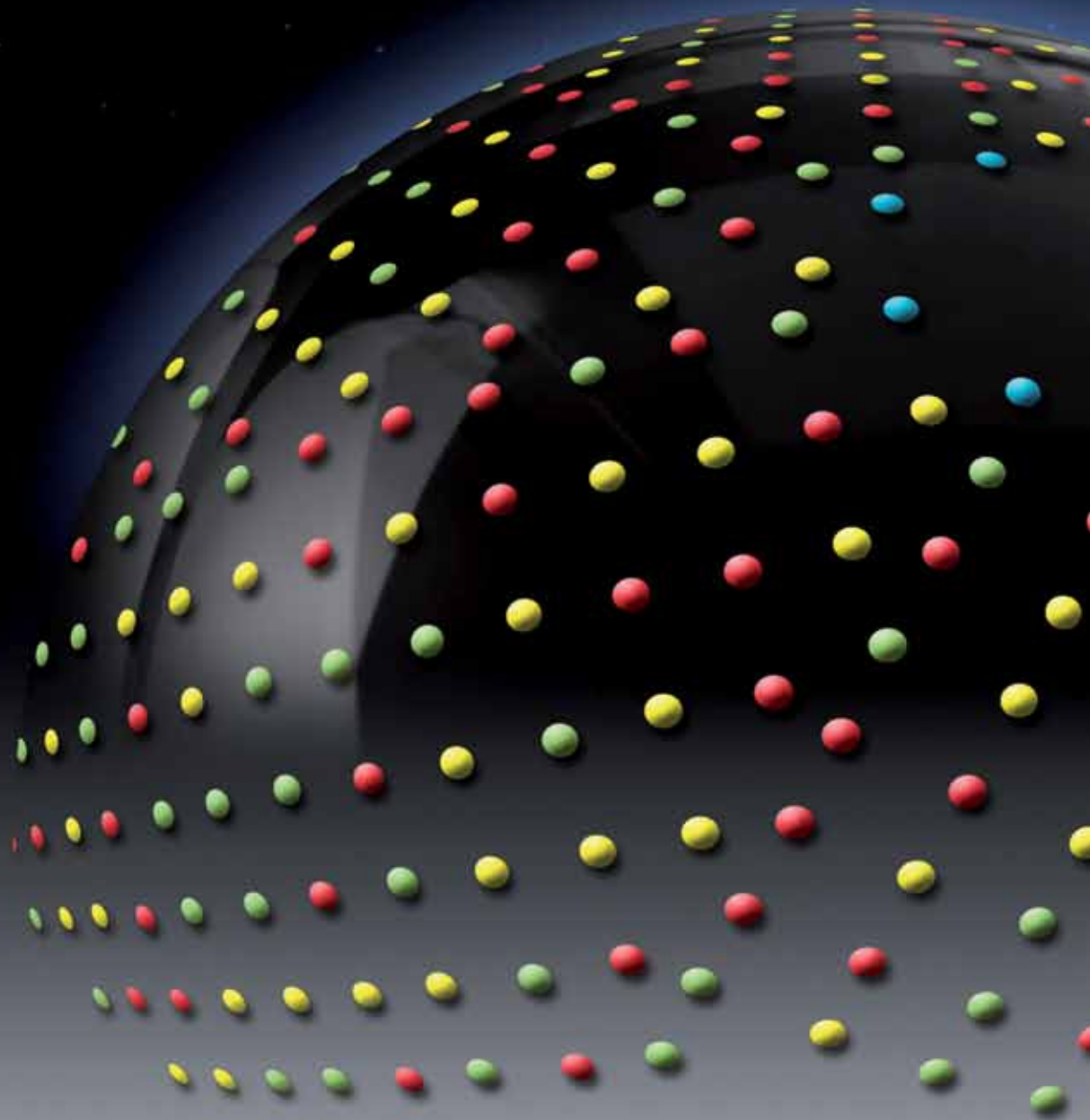
In the future, it will be possible to measure the power and shape of intraocular lenses more precisely, by combining Cassini's CLT technology with further innovations that measure the axial length, anterior chamber size and other parameters for IOL fitting.

Today's devices generate a post-op error of 0.5 diopters. Cassini's innovations will reduce this to a negligible 0.2 diopters. This helps to cut the number of patients requiring glasses after the procedure.

³Prevalence of keratoconus is approximately 0.05% in Western countries.

⁴The precision of the Placido topographers in determining the angle of astigmatism is 10 degrees. Cassini is five times better.

Visualize
superior accuracy
and precision
with Cassini



Cassini beats the Placido killer

Cassini's smart technology can measure high and low order aberrations precisely and in any direction, where the rings in Placido topographers limit accurate measurements to the radial direction only. With this fundamental improvement, Cassini sets a new standard.

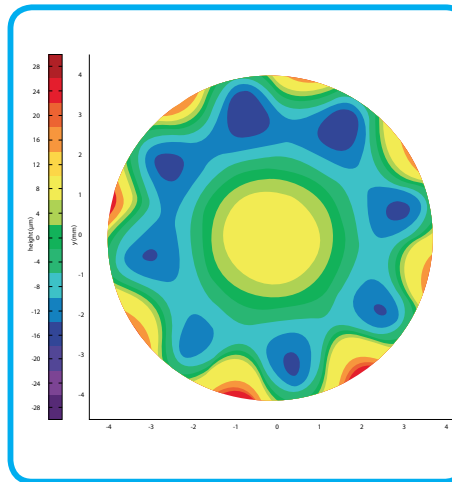
An octafoil surface, perhaps better known as the 'Placido killer', illustrates this clearly. Cassini shows the eight lobes of the octafoil and measures the amplitude with submicron accuracy -10 micron in this example.

The height map produced by the Placido topographer fails to show the true structure of the surface, showing only three lobes. The amplitude is also incorrect, giving a suppressed amplitude of 0.8 microns (8 diopters error).

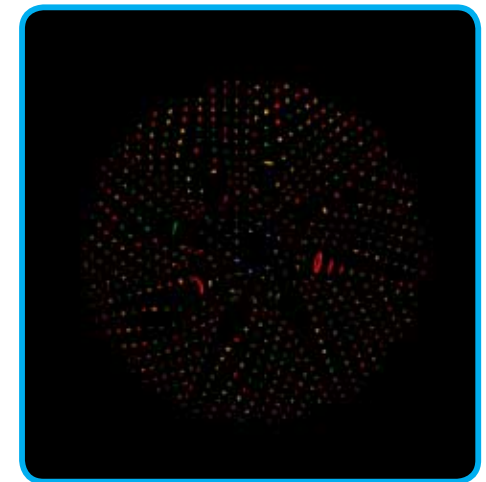
This is a new standard in eye healthcare. One that will benefit premium contact lens fitting, early detection and progression monitoring of keratoconus, planning of refractive surgery and IOL replacement.



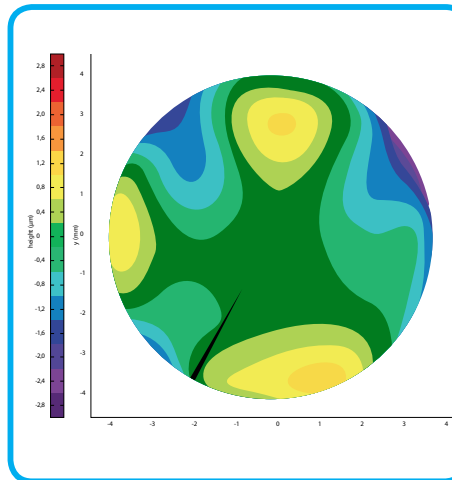
Octafoil



Cassini height map



Cassini photo

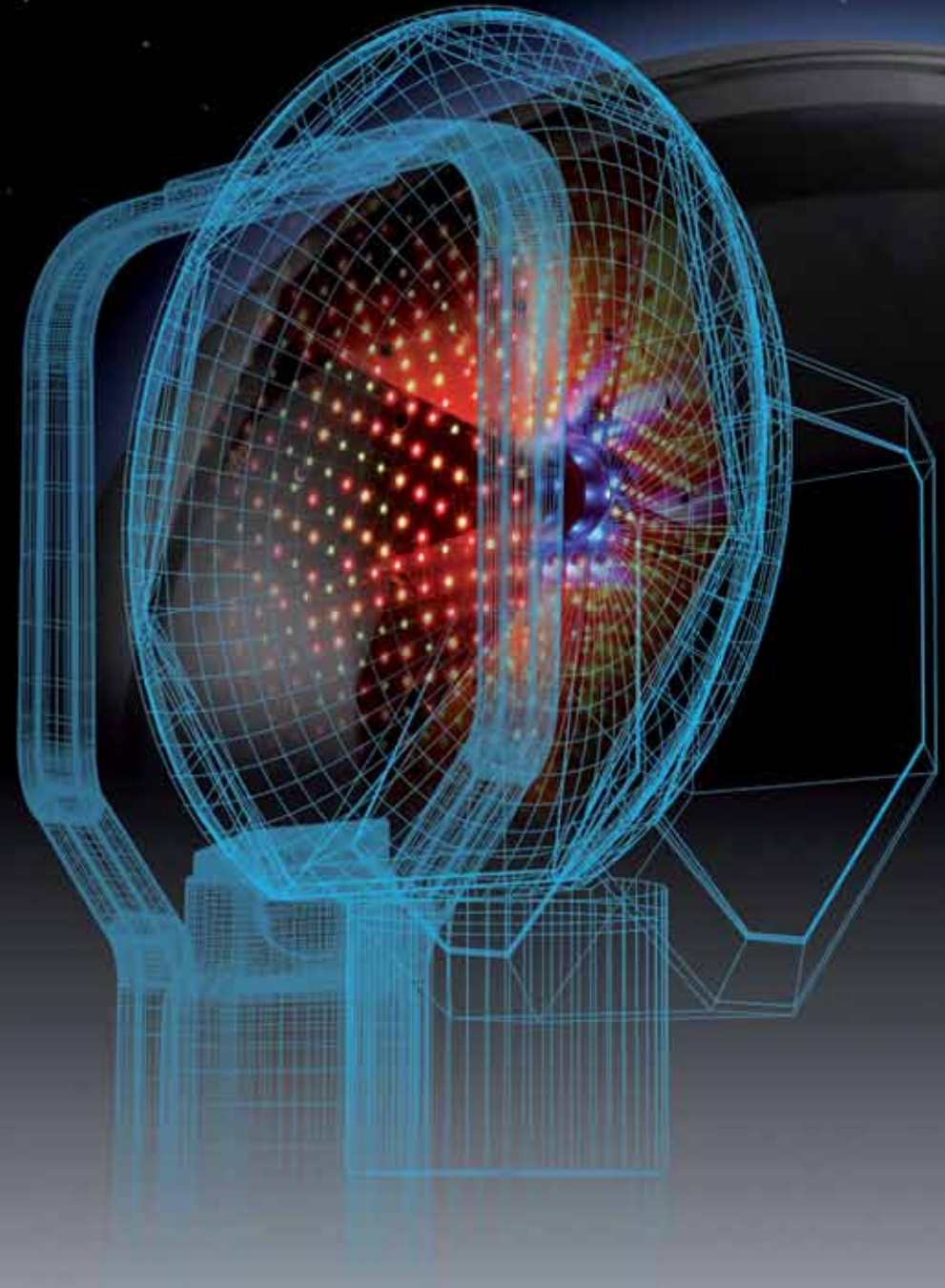


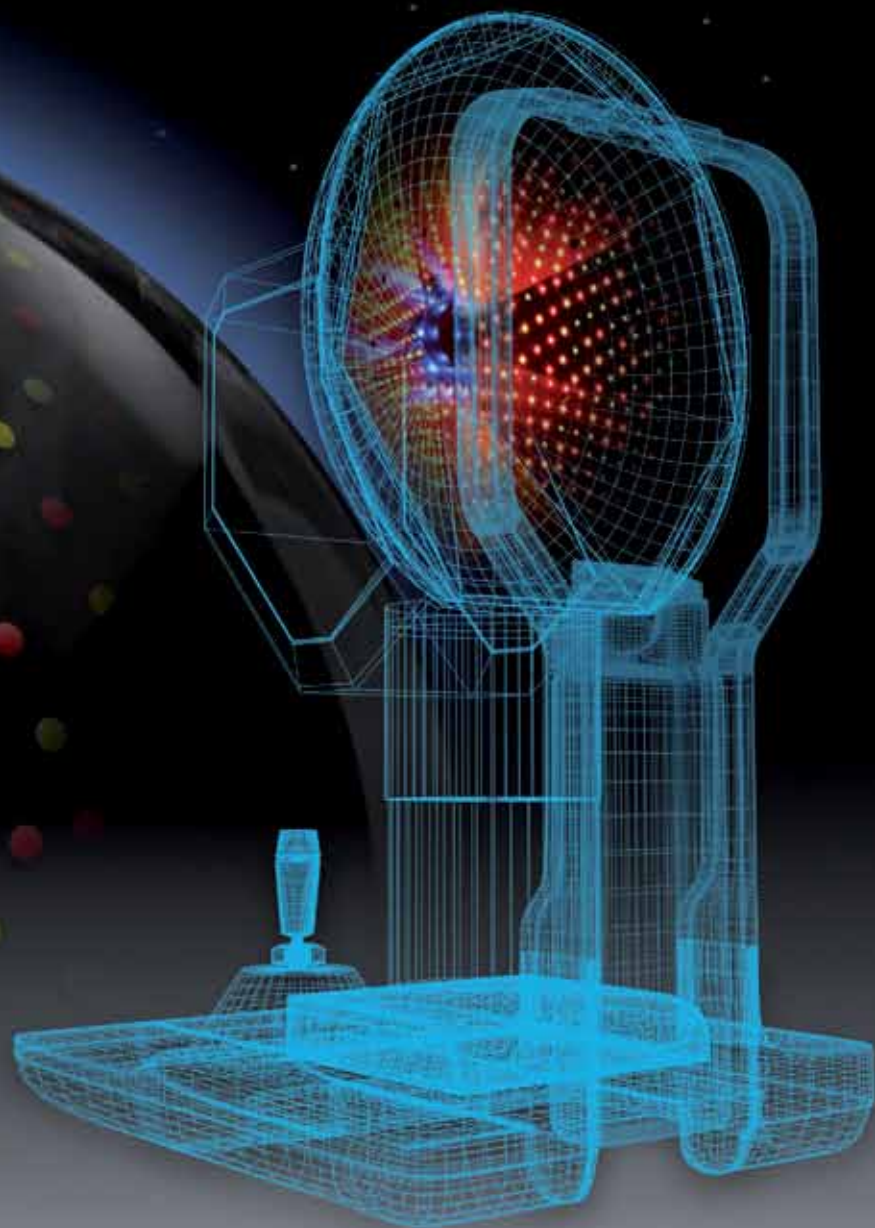
Placido height map



Placido photo

Visualize the invisible with Cassini





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