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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Petition for Cancellation

Notice is hereby given that the following party requests to cancel indicated registration.

Petitioner Information

Name	VectorWatch SRL		
Entity	Limited Liability Company	Citizenship	Romania
Address	17C Sevastopol St Bucharest, ROMANIA		

Attorney information	Peter M. Routhier Faegre Baker Daniels LLP 90 South Seventh Street 2200 Wells Fargo Center Minneapolis, MN 55402 UNITED STATES tmmpls@faegrebd.com, peter.routhier@faegrebd.com Phone:612.766.7000

Registration Subject to Cancellation

Registration No	4819385	Registration date	09/22/2015
Registrant	i1 Sensortech, Inc. 12020 113th Ave NE, Suite 210 Kirkland, WA 98034 UNITED STATES		

Goods/Services Subject to Cancellation

Class 010. First Use: 2014/07/08 First Use In Commerce: 2014/07/08
All goods and services in the class are cancelled, namely: health monitoring device and system, namely, medical apparatus for monitoring vital signs worn by a person that informsothers about the wearer's medical information before, during and after activitybeing monitored

Grounds for Cancellation

Abandonment	Trademark Act Section 14(3)

Attachments	Vector - Cancellation.pdf(32043 bytes) Vector - Exhibit A.pdf(3175786 bytes) Vector - Exhibit B.pdf(90297 bytes)

Certificate of Service

The undersigned hereby certifies that a copy of this paper has been served upon all parties, at their address record by First Class Mail on this date.

Signature	/Peter M Routhier/

Name	Peter M. Routhier
Date	09/07/2016

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

In the Matter of Registration No. 4,819,385
For the Mark: VECTOR
Registration Date: Sept. 22, 2015

VectorWatch SRL, Petitioner, v. i1 Sensortech, Inc. d/b/a i1 Biometrics, Respondent.	Cancellation No. _____

Petition for Cancellation

Petitioner VectorWatch SRL ("VectorWatch"), a Limited Liability Company with offices at 17C Sevastopol St., Bucharest, Romania, hereby petitions to cancel Registration No. 4,819,385 for the mark VECTOR in connection with health monitoring device and system, namely, medical apparatus for monitoring vital signs worn by a person that informs others about the wearer's medical information before, during and after activity being monitored in International Class 10 ("Respondent's Mark"). Respondent's Mark is currently owned by i1 Sensortech, Inc. d/b/a i1 Biometrics ("Respondent"), a Corporation with offices at 12020 113th Avenue Northeast, Suite 210, Kirkland, Washington. This Petition is brought on the following grounds:

1. Petitioner VectorWatch is a Romanian technology company that designs and develops smartwatches, among other things. VectorWatch's smartwatches are available from retailers in the United States and throughout the world, including from Bloomingdales, Best Buy, and other popular fashion and technology retailers.

2. On July 14, 2015, VectorWatch filed an application to register the mark

in connection with medical instruments, namely, health, fitness, exercise, and wellness sensors, monitors and displays for measuring, displaying, tracking, monitoring, storing, and transmitting biometric data, heart rate, body movement, and calories burned; medical apparatus and devices to measure, display, track, monitor, store, and transmit biometric data, heart rate, body movement, and calories burned in International Class 10. U.S. Trademark Application No. 86/691,932 (the "'932 Application").

3. On March 7, 2016, a Final Office Action was issued in connection with the '932 Application, refusing registration under Section 2(d), 15 U.S.C. § 1052(d), based on an alleged likelihood of confusion with Respondent's Mark, U.S. Trademark Registration No. 4,819,385 for VECTOR as applied to goods in International Class 10.

4. Respondent i1 Sensortech is a sports equipment company based in Kirkland, Washington. On information and belief, Respondent's only product, and Respondent's only current use of the VECTOR mark, is in connection with its "Vector MouthGuard" and the technology associated therewith.

5. Respondent's current "Vector MouthGuard" includes an "Impact Intelligence System," which Respondent describes as "comprised of an instrumented mouth guard with custom fit dental impression, and associated software and equipment for processing and storing high-acceleration impact events delivered directly or indirectly to a person's head. Sensing of 3-axis linear acceleration and 3-axis rotational velocity is performed at a location just forward of the person's lips, and is mathematically translated to locations within the head." *See* Ex. A (http://i1biometrics.com/media/1126/iis-technology-white-paper.pdf).

6. On information and belief, Respondent's Vector MouthGuard, and Respondent's only current use of the VECTOR mark, is in connection with a mouthguard that measures impact forces—not a "medical apparatus for monitoring vital signs."

7. Vital signs means "body temperature, heart rate, respiratory rate, and blood pressure as measured to assess health or dysfunction." *See* Ex. B (https://www.ahdictionary.com/word/search.html?q=vital%20signs).

8. Impact forces are not vital signs.

9. On information and belief, Respondent's Vector MouthGuard, and its only use of the VECTOR mark, is connected solely with a mouthguard that measures impact forces—namely, "an instrumented mouth guard with custom fit dental impression, and associated software and equipment for processing and storing high-acceleration impact events delivered directly or indirectly to a person's head."

10. Respondent therefore is not using, and may never have used, the VECTOR mark in connection with the goods recited in connection with International Class 10 in its U.S. Registration No. 4,819,385 for VECTOR, i.e., "health monitoring device and system, namely, medical apparatus for monitoring vital signs worn by a person that informs others about the wearer's medical information before, during and after activity being monitored."

11. On information and belief, Respondent has abandoned Respondent's Mark because it has discontinued use of the mark, at least with respect to the goods listed in International Class 10, without any intent to resume such use.

12. On information and belief, Respondent's Mark does not function as a source identifier vis-à-vis Respondent, at least with respect to the goods listed in International Class 10.

13. Petitioner VectorWatch has been or will be damaged by Respondent's Mark at least because the examiner alleged that Respondent's Mark is likely to cause confusion with VectorWatch's '932 Application and may thereby be refused registration under Section 2(d) of the Lanham Act.

14. Respondent's Mark therefore should be cancelled as abandoned pursuant to 15 U.S.C. § 1064.

WHEREFORE, Petitioner VectorWatch respectfully requests that Respondent's Registration No. 4,819,385 be cancelled as to the goods recited in connection with International Class 10.

VectorWatch submits with this Petition for Cancellation the filing fee of $300. If the amount submitted is determined to be incorrect, the Commissioner may charge any additional fees or credit any overpayment to Deposit Account No. 06-0029.

Dated: September 7, 2016

FAEGRE BAKER DANIELS LLP

By */s/ Peter M. Routhier*

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Attorneys for the Petitioner

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

In the Matter of Registration No. 4,819,385
For the Mark: VECTOR
Registration Date: Sept. 22, 2015

VectorWatch SRL, Petitioner, v. i1 Sensortech, Inc. d/b/a i1 Biometrics, Respondent.	Cancellation No. _____

Certificate of Service

I, Peter M. Routhier, do hereby certify that on September 7, 2016, a true and correct copy of the above **Petition for Partial Cancellation** has been forwarded by United States and electronic mail, first class, postage prepaid, to the Respondent at the correspondent address as listed below:

i1 Sensortech, Inc.
12020 113th Ave NE, Suite 210
Kirkland, WA 98034

Matthew E. Moersfelder
Davis Wright Tremaine LLP
1201 3rd Ave Ste 2200
Seattle, WA 98101-3045

/s/ Peter M. Routhier
Peter M. Routhier

Exhibit A

The i1 Biometrics Impact Intelligence System

David E. Snyder, Chief Science Officer, i1 Biometrics, Inc.
Updated June 21, 2013

Abstract

The i1 Biometrics Impact Intelligence System (IIS) is comprised of an instrumented mouth guard with custom fit dental impression, and associated software and equipment for processing and storing high-acceleration impact events delivered directly or indirectly to a person's head. Sensing of 3-axis linear acceleration and 3-axis rotational velocity is performed at a location just forward of the person's lips, and is mathematically translated to locations within the head. We evaluated the IIS for accuracy in measuring peak linear and rotational acceleration magnitude over a wide variety of impact orientations and intensities in comparison to reference instrumentation mounted inside a dummy head form. The IIS demonstrated excellent agreement for both linear acceleration ($r^2 = 0.97$, $p \ll 0.001$, $n = 131$) and rotational acceleration ($r^2 = 0.90$, $p \ll 0.001$, $n = 131$).

Introduction

Traumatic brain injury, including concussion, occurs in sporting activities when the head is subjected to sudden high magnitude acceleration due to an impact. Such impacts may occur as a result of accidental or intentional collisions between athletes, or between an athlete and an inanimate object, e.g., a ball, goal post, fence, or the ground.

With respect to brain injury, acceleration takes two important forms: linear and rotational (also called angular). Linear acceleration occurs when the head experiences a change in speed while moving in a straight line, for example when an outfielder collides with the outfield wall while tracking a deep fly ball. Rotational acceleration occurs when the head experiences a change in its rate of rotation, even if there is no straight-line motion. High rotational acceleration is experienced when a boxer takes a hook to the chin. Most sporting impacts include components of both linear and rotational acceleration, which makes the situation more complicated. When linear acceleration is combined with rotation, different regions within the head experience higher linear acceleration than others.

The distinction between linear and rotational acceleration is important, because each causes different types of brain injury. Linear acceleration leads to focal injuries such as contusions (bruising) and intracerebral hematomas as well as subdural hematomas.

Concussions and diffuse axonal injury (DAI) are believed to result only when rotational acceleration is a significant component of the injury mechanism.[1]

To design a measurement system that can capture the accelerations relevant to brain injury it is essential that the movements of the head be captured accurately. Measurement systems incorporated into helmets (and by inference other items of clothing or protective gear not tightly coupled to the head) have proven less accurate at measuring the acceleration of the head itself as compared to head-connected measurement systems.[2]

Therefore to capture a complete picture of the accelerations relevant to traumatic brain injury in sporting activities, an impact detection system must measure and record both linear and rotational accelerations of the skull with high accuracy. This requirement gives rise to several desirable features for an impact detection system:

1. Measure linear acceleration in 3 dimensions.
2. Measure rotational acceleration in 3 dimensions.
3. Be tightly coupled to the skull so that movements of the head (not shoulder, helmet, chin strap, etc.) are precisely measured.
4. Find the maximum acceleration over the entire extent of the skull, not just at the point(s) of measurement.

To accurately capture the full range of linear and rotational acceleration encountered in sporting impacts the IIS employs the same technology used in inertial navigation systems found on aircraft, submarines and spacecraft. These systems employ a three-axis accelerometer and three-axis gyroscope. To fit within a mouth guard, these sensors are manufactured as micro-electro-mechanical systems (MEMS) on the order of 3 millimeters in size. The IIS can measure linear acceleration of up to 200 g (almost 2000 meters per second squared), and rotational velocity of up to 2000 degrees per second (5½ complete rotations of the head per second).

The measurement system is tightly coupled to the motions of the head by incorporating it into a mouth guard. The mouth guard employs boil-and-bite technology to provide a custom fit to the upper jaw thereby ensuring that the mouth guard moves precisely as the head does.

By using both a 3-axis accelerometer and a 3-axis gyroscope, the data collected at the mouth guard can be converted by kinematic transform to other positions within the head, a capability referred to as the Virtual Measurement System (VMS). With VMS, the IIS can measure not only the mouth guard acceleration, but also compute the highest linear and rotational acceleration that occurs anywhere on the skull. This is important for two

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[1] Marion, Donald W., ed. "Pathophysiology." Traumatic Brain Injury. New York: Thieme Medical, 1999. 29-37. Print.

[2] Daneshevar DH, Baugh CM, Nowinski CJ, et al. Helmets and Mouth Guards: The Role of personal Equipment in Preventing Sport-Related Concussions, Clin Sports Med 30 (2011) 145-163.

reasons: (1) contusions are caused by the brain impacting the inside surface of the skull, and (2) the highest linear acceleration of the head (and therefore largest force of injury) is also located on the perimeter of the skull.

Completing the IIS mouth guard is a micro-powered computer processor, with memory for storage of impact events, radio transmitter/receiver, and lithium polymer rechargeable battery. These allow the mouth guard to transmit information by radio in real-time to a sideline computer that analyzes the impact data for each athlete on the field.

The sideline computer of the IIS processes the impact data according to standards established by the Society of Automotive Engineers for characterizing impacts in automotive collisions (SAE J211-1 (1995)).

Equipment

To validate the performance of the Impact Intelligence system, i1 Biometrics has established an Impact Laboratory featuring pendulum and linear impact systems, custom head forms, and a calibrated high-performance data acquisition system (DTS SLICE micro, 50 kHz) with 3-axis accelerometers (Measurement Specialties 64c, 2000g) and 3-axis angular velocity sensors (DTS ARS-12k). The head form includes an articulated mandible that allows for secure mounting of the IIS mouth guard.

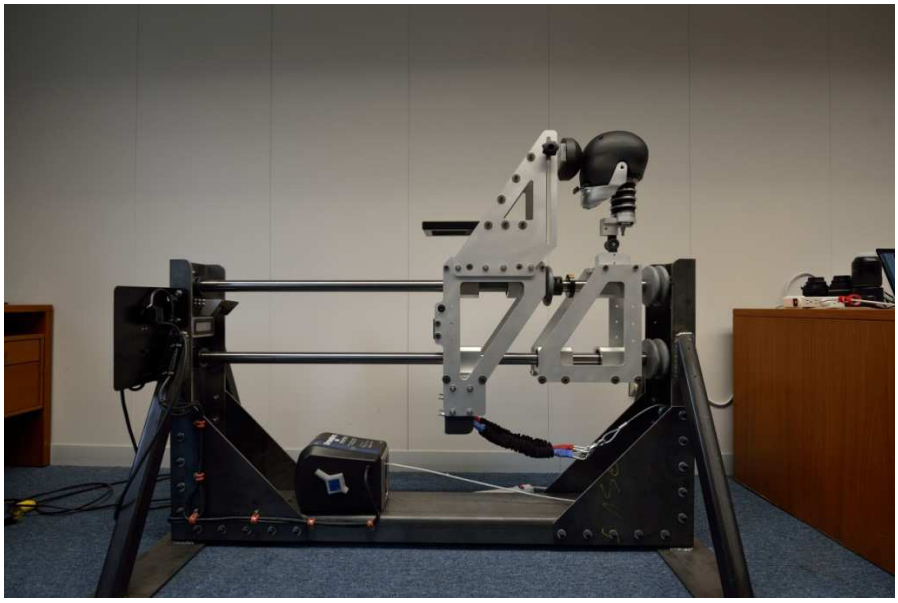

Figure 1. The i1 Biometrics Linear Impact Tester with IIS mouth guard mounted in custom head form.

Figure 2. The i1Biometrics pendulum impact tester.

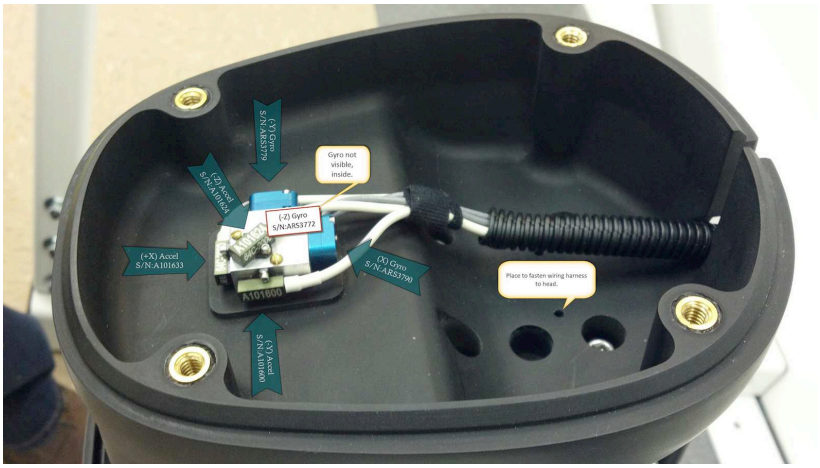

Figure 3. High-performance reference instrumentation mounted in head form.

Methods

To test accuracy, the IIS mouth guard was mounted into the custom head form with articulated mandible and high-accuracy reference measurement system. The head form was cycled through 17 different orientations spanning 360 degrees of rotation at 3 different pitch angles. Multiple impacts were delivered at each orientation with intensities

varying from approximately 20 g to more than 120 g. All data was filtered per CFC180 specification as described in SAE J211-1, "Instrumentation for Impact Test." The Virtual Measurement System was used to translate mouth guard measurements to the location of the reference measurement system within the head form.

Data were evaluated by linear regression analysis to determine the slope of the line (m, ideally 1.0), the coefficient of determination (r^2, ideally 1.0) and level of significance, with $p < 0.01$ considered a significant result.

Results

Typical impact waveforms as recorded by the reference measurement system and by the IIS mouth guard without VMS correction are shown in Figure 4. Note that the maximum magnitude of the linear acceleration is significantly underestimated by the mouth guard measurements as a consequence of rotational motion (not shown).

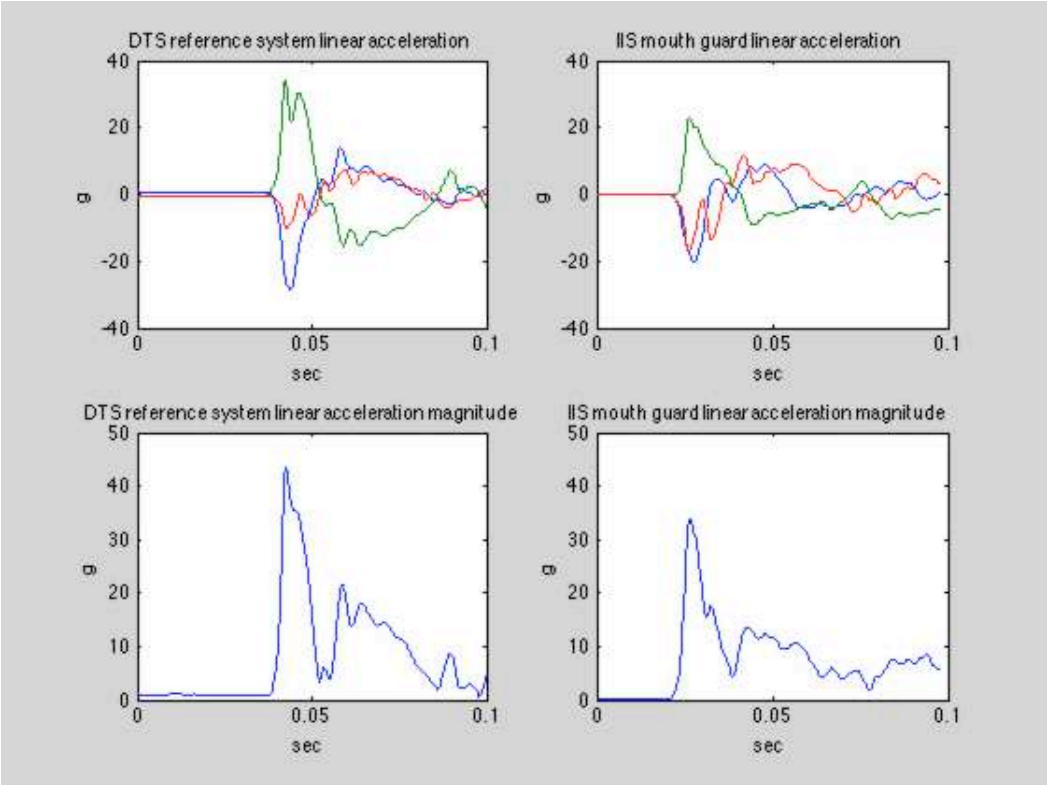

Figure 4. Linear acceleration recorded by the DTS reference system (upper left), and by the IIS mouth guard ***without*** VMS (upper right). The blue trace represents forward acceleration, green represents rightward, and red represents downward. The magnitude of the linear acceleration recorded by the DTS reference system is shown in the lower left, and by the IIS mouth guard ***without*** VMS in the lower right.

After processing with the VMS, the waveforms and maximum linear acceleration demonstrate good agreement between the reference instrumentation and the IIS system (Figure 5).

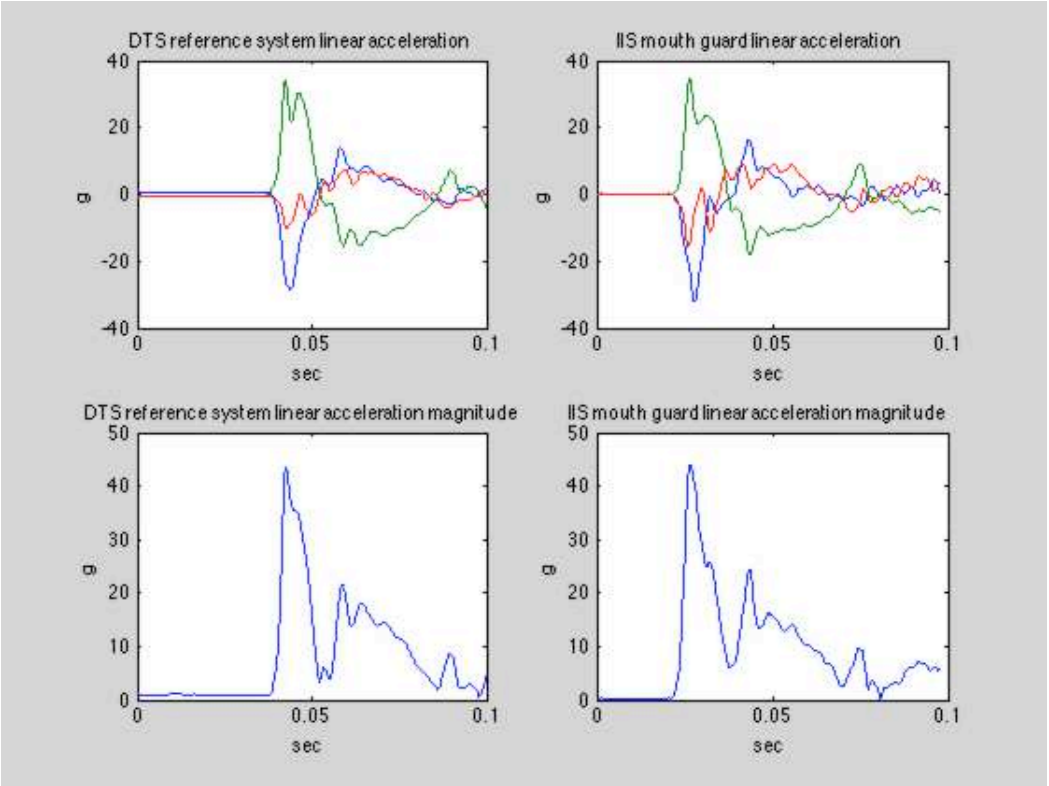

Figure 5. Linear acceleration recorded by the DTS reference system (upper left), and by the IIS mouth guard ***with*** VMS (upper right). The blue trace represents forward acceleration, green represents rightward, and red represents downward. The magnitude of the linear acceleration recorded by the DTS reference system is shown in the lower left, and by the IIS mouth guard ***with*** VMS in the lower right.

These figures vividly demonstrate an important deficiency of systems that are unable to measure or calculate the acceleration at more than one point: the presence of rotation during an impact can cause peak linear acceleration to be significantly underestimated by such systems (approximately 25% in this example, but much higher for some impacts). To find the maximum linear acceleration, either multiple accelerometers must be placed over the entire perimeter of the head or the values at those positions must be calculated using technology such as VMS.

To examine the accuracy of the IIS over a large number of impacts, the Peak Linear Acceleration (PLA) measured for each impact was plotted versus that measured by the reference system. Results are shown in Figure 6. The slope of the line is 0.97 with a coefficient of determination $r^2 = 0.97$ ($p \ll 0.001$, $n = 131$).

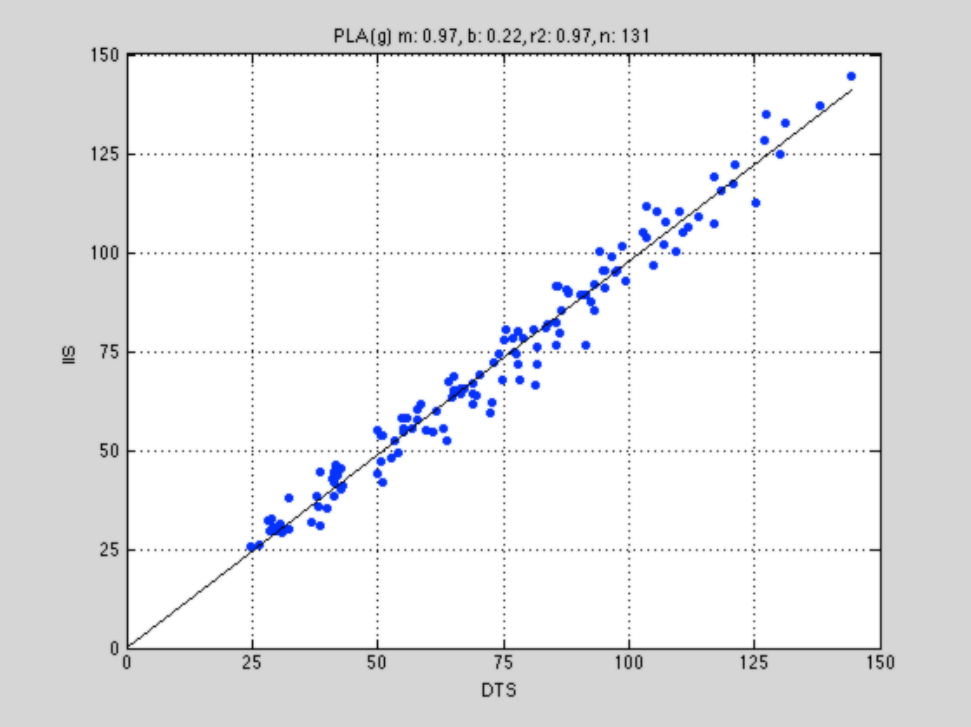

Figure 6. Peak Linear Acceleration (PLA) measured by the IIS with VMS technology, versus reference system measurements. Slope = 0.97 with $r^2 = 0.97$.

As mentioned previously, rotational velocity and acceleration are also important contributors to traumatic brain injury. Validation results for Peak Rotational Velocity (PRV), and Peak Rotational Acceleration (PRA, calculated as the derivative of PRV) are presented in Figure 7 and Figure 8. The coefficients of determination are $r^2 = 0.98$ ($p \ll 0.001$, $n = 131$) for peak rotational velocity and $r^2 = 0.90$ ($p \ll 0.001$, $n = 131$) for peak rotational acceleration.

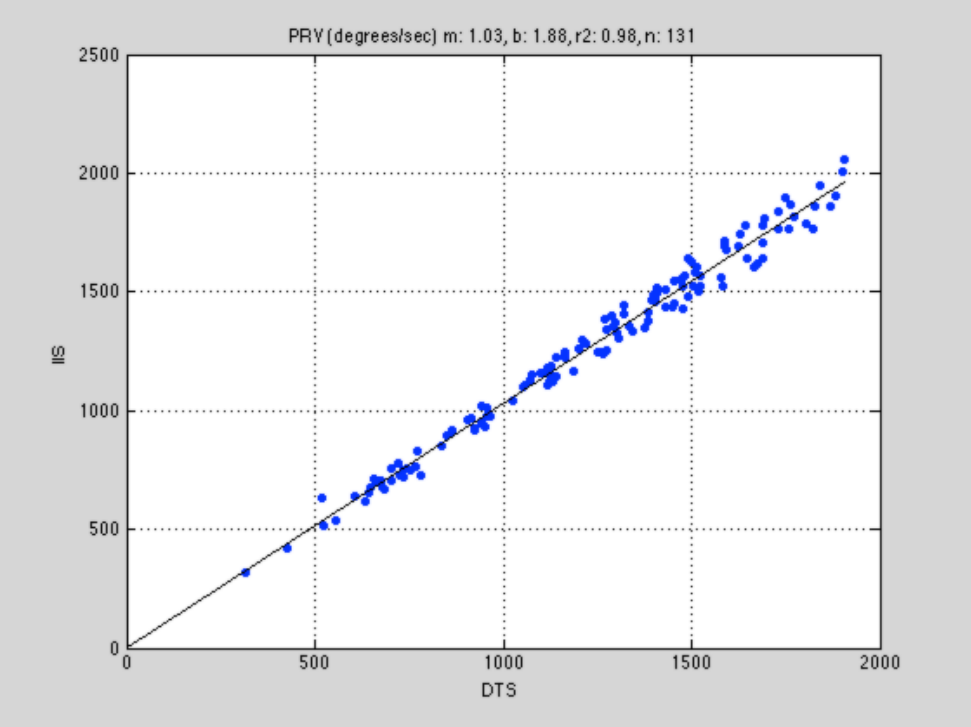

Figure 7. Peak Rotational Velocity (PRV) measured by the IIS with VMS technology, versus reference system measurements. Slope = 1.03 with $r^2 = 0.98$.

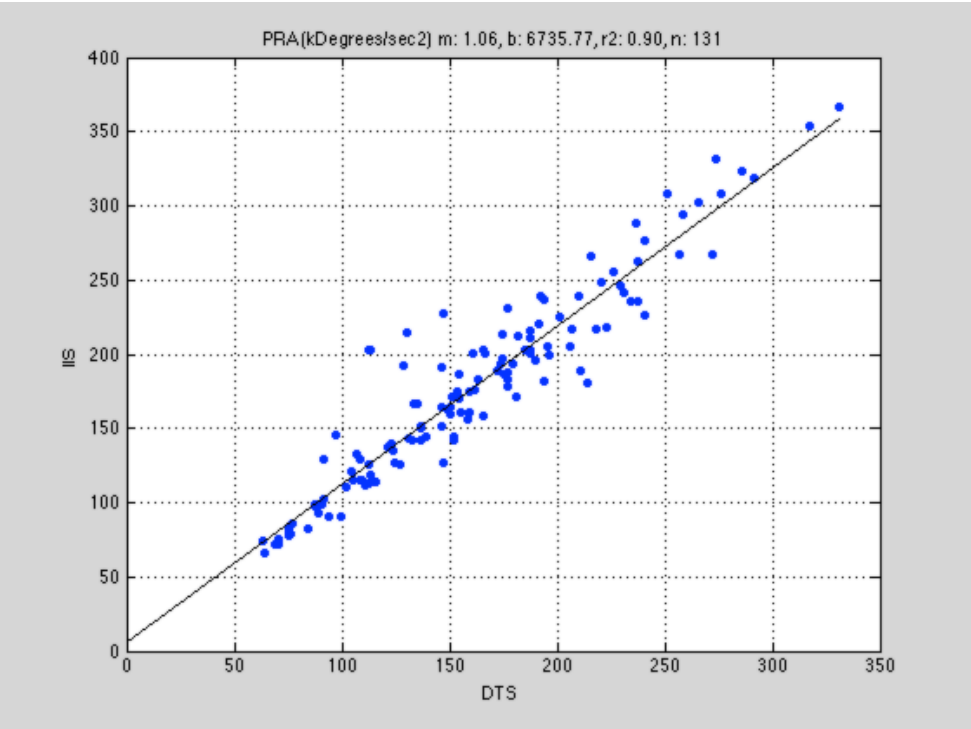

Figure 8. Peak Rotational Acceleration (PRA) measured by the IIS with VMS technology, versus reference system measurements. Slope = 1.06 with $r^2 = 0.90$.

Finally, by measuring the direction of the peak linear acceleration it is possible to deduce the direction of the impact. Results are presented in Figure 9, where once again good agreement is obtained with $r^2 = 0.99$ ($p \ll 0.001$, $n = 121$)

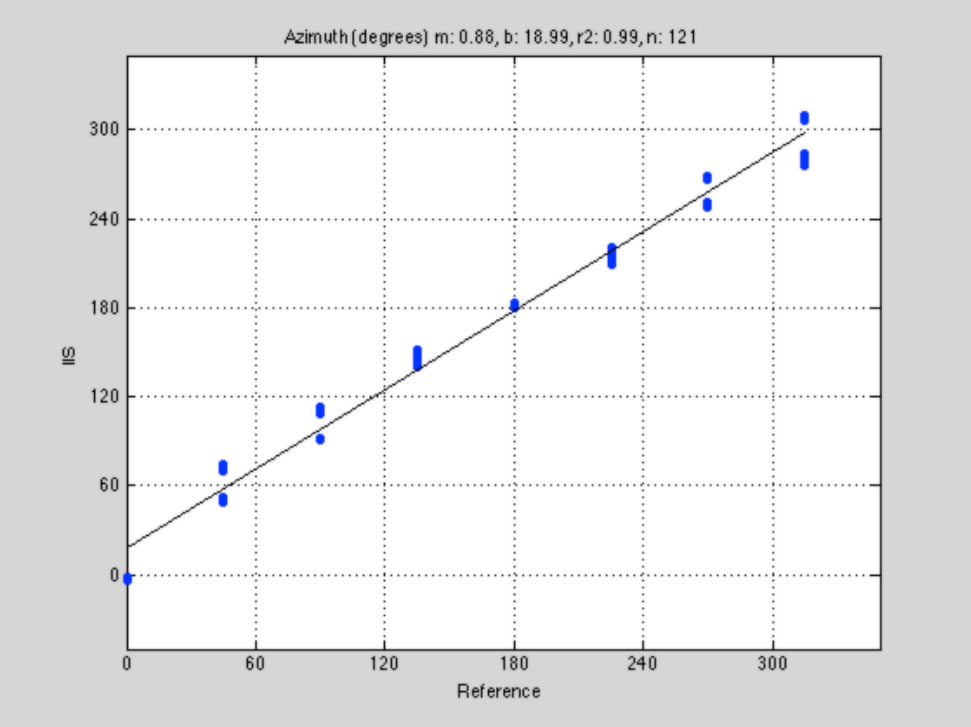

Figure 9. Direction of impact (azimuth) measured by the IIS with VMS technology, versus reference head position in the impact tester. Slope = 0.88 with $r^2 = 0.99$.

Conclusions

The i1 Biometrics Impact Intelligence System with Virtual Measurement System provides high-accuracy measurements of the head motions, both linear and rotational, that contribute to traumatic brain injury. The Virtual Measurement System allows these quantities to be calculated at all points on the inside surface of the skull, where the brain collides with bony structures during impact and the highest accelerations occur (and therefore forces of injury). Since linear acceleration can vary widely from one part of the head to another in the presence of rotation, the Virtual Measurement System allows the peak value to be identified over the entire head based on measurements taken within the mouth guard.

Exhibit B

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The Panelists

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Semitic Roots

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