

The Office of Technology Management

UNIVERSITY OF TEXAS  ARLINGTON

Tech ID: UTA 13-27

Bubble Actuator for Concussive Gear

INVENTOR: Muthu Wijesundara, PhD.

TECHNOLOGY NEED

Concussion due to contact sports is rising at an alarming rate with 3,800,000 concussions reported in 2012 which doubled the cases reported in 2002. Most athletes typically experience multiple concussion events during their lifetime and cumulative effect of these events can lead to lifelong impairments including memory loss, cognitive dysfunction, and permanent brain damage. Protective gear should absorb and/or dissipate impact energy to keep athletes safe. Yet, helmets with integrated liners fail to keep the brain from moving and crashing into the skull.

INVENTION DESCRIPTION/SOLUTION

Researchers at UTA have developed an interconnected-bubble array that will optimize impact energy dissipation, through deformation and displacement, to reduce the magnitude of the impact transferred to the brain. The array is made of hyperelastic material and based upon UTA's proprietary bubble actuator technology. The array can line helmets and is manufactured using low-cost well understood methods and materials.

APPLICATIONS

- Sports/Motorcycle Helmets
- Body Armor Liners
- Protective/Adventure gear
- Exercise Mats

KEY BENEFITS

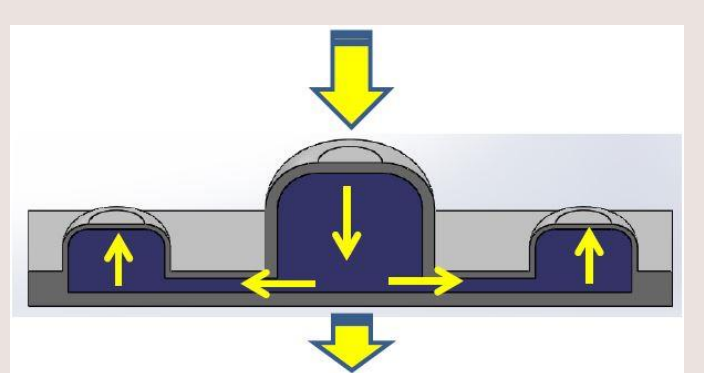
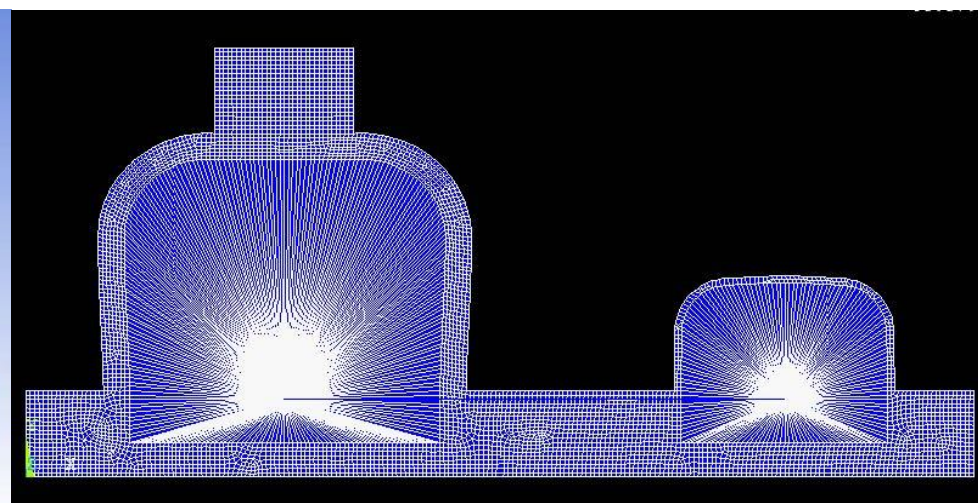
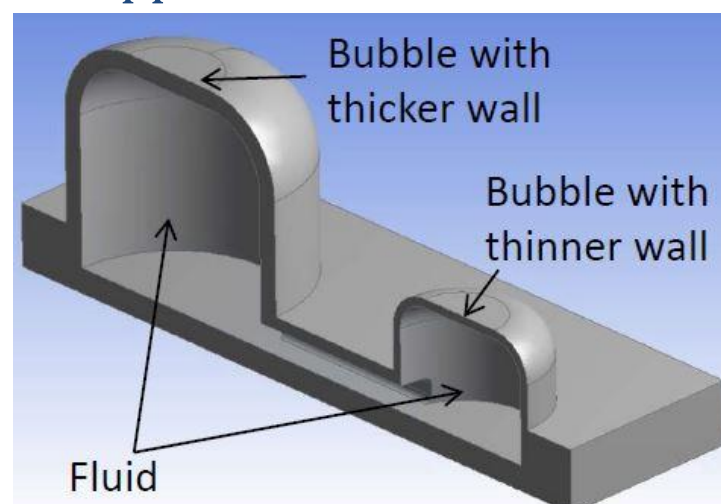
- Comfortable and snug fit
- Reduces the magnitude of impact
- Easily adaptable to existing safety gear

STAGE OF DEVELOPMENT

- Prototyped and Tested

INTELLECTUAL PROPERTY STATUS

- US patent Application [US20160331556A1](#)



More about the Inventor:
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