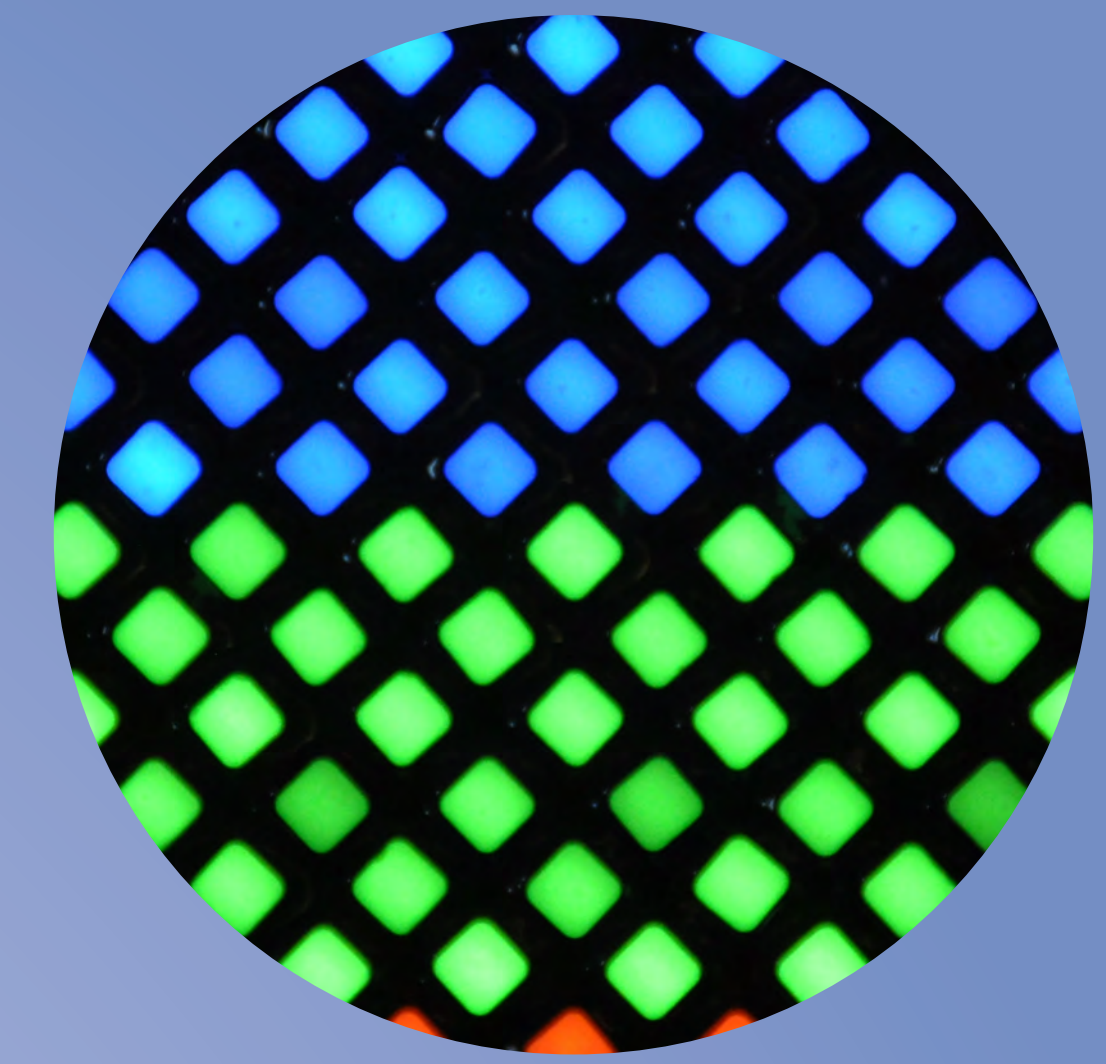
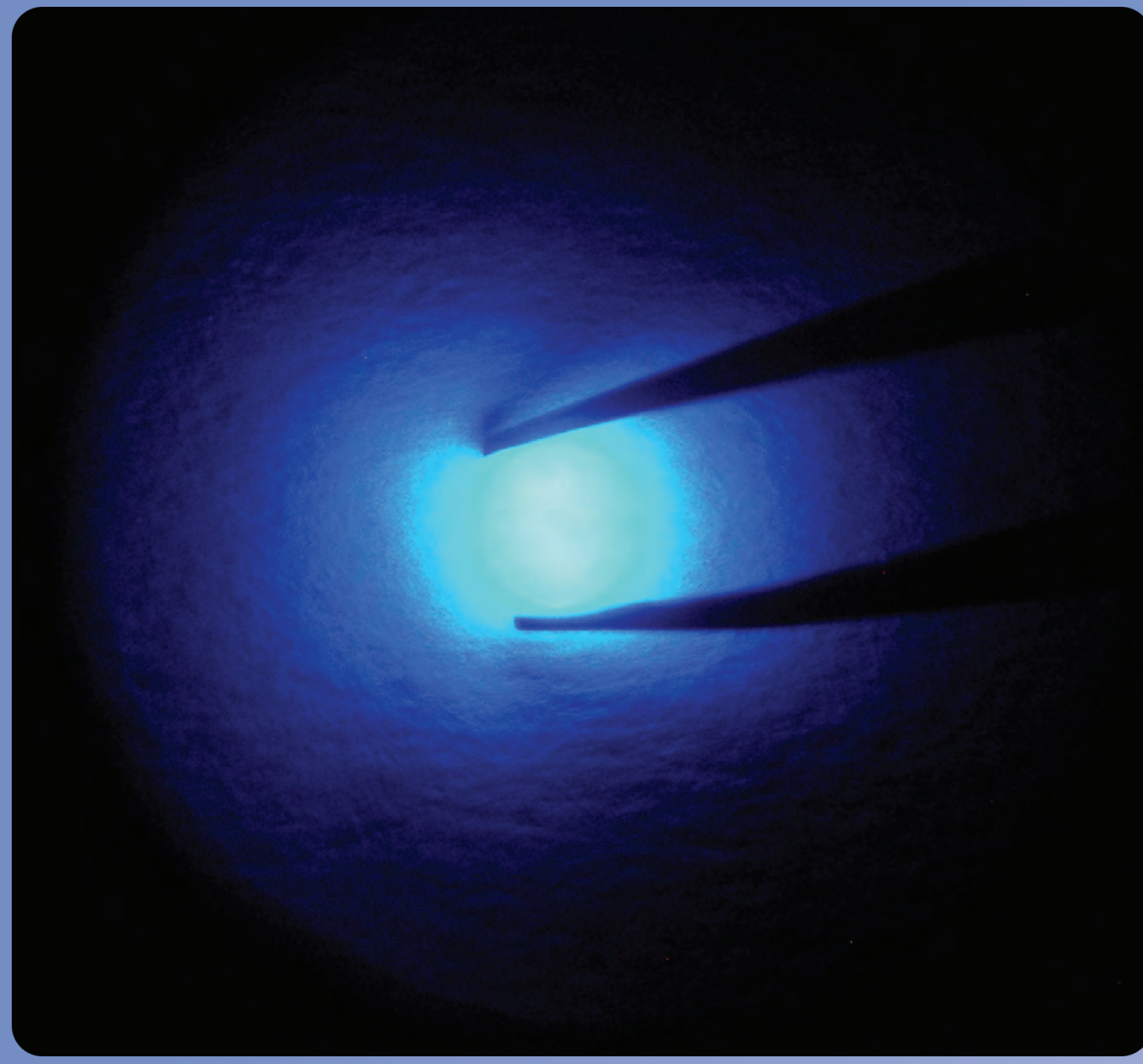


UV Water Sterilization with IST Plasma-Shells™



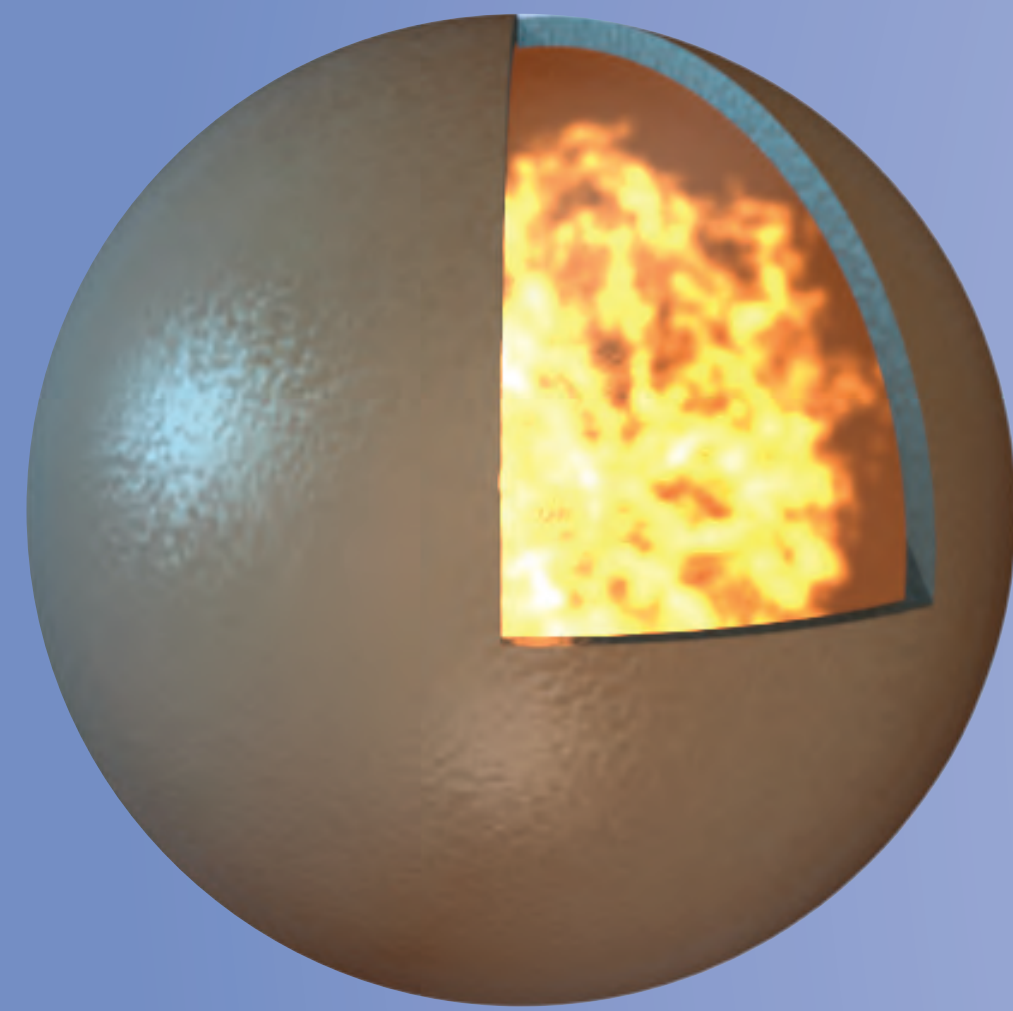
Plasma-Shells™ Emit UV Light Facilitating Water Sterilization

What is a Plasma-Shell™ ?

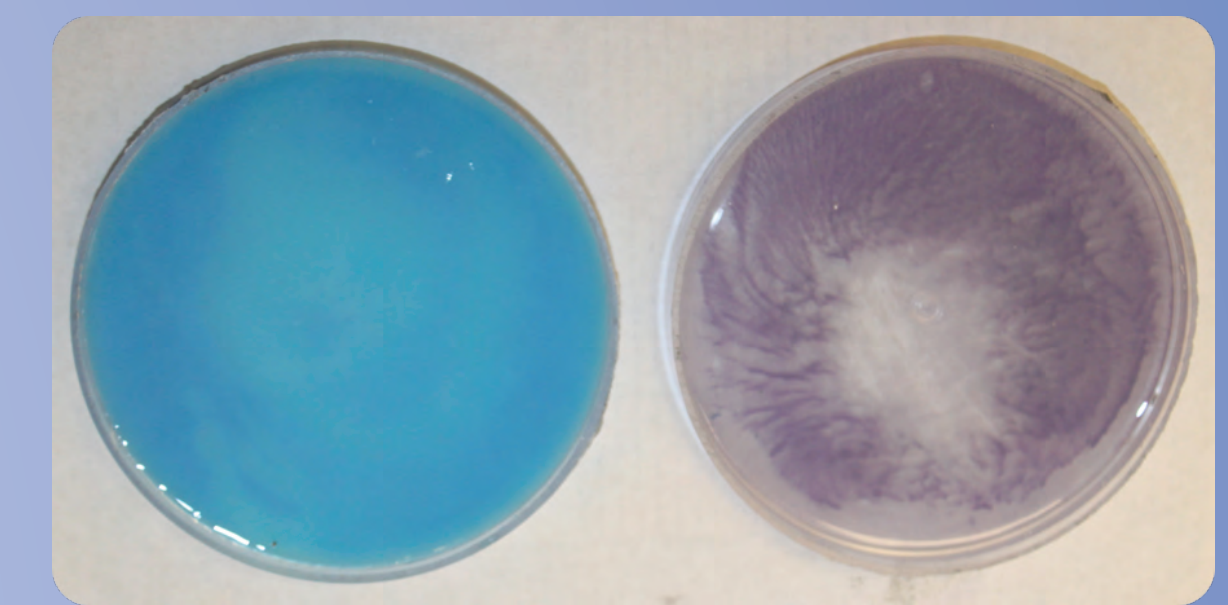
Imaging Systems Technology (IST) produces tiny hollow gas encapsulating devices called Plasma-shells™.

When a voltage is applied across the Plasma-shells the gas inside ionizes and glows.

Through proper selection of shell material and gas, Plasma-shells can be fabricated to produce light in UV, visible, and/or infrared region.



UV emitting Plasma-shell™ array



Methylene blue solution mixed with TiO₂ after exposure to UV light emitted from Plasma-shells™ (left). Methylene blue solution mixed with TiO₂ with no exposure to UV light (right).

Abstract of Technology

UV Plasma-shell™ lighting elements provide large area, homogenous UV lighting for:

- Disinfecting and germicidal
- Medical treatment
- Photo-Curing
- UV band communication

The tiny light emitting elements are placed onto substrates to form large arrays of distributed light. The elements can be tightly packed to form a low-cost, large surface area, continuous, and completely diffuse light source without concern of heat build up.

Plasma-shells™ are voltage controlled, so the power source can be remote from the array allowing for an array depth of less than 4mm.

UV Plasma-shells™ are available in UV-A (400 – 315 nm), UV-B (315 - 280 nm), and UV-C (280 - 200 nm). Arrays can be made to any size.

Features of Plasma-Shells

- Flexible packaging
- Conformable
- Low profile (4 mm depth)
- High surface area
- Typical life is 8,000 hours
- Impact resistant
- Environmentally safe (no Mercury)
- Scalable to large areas
- Highly diffuse
- Low cost
- Hydrostatic crush strength > 15 Ksi
- Temperature resistant

Intellectual Property

IST currently has allowable subject matter on over 44 patents regarding shell fabrication and applications, including applications of UV shells for photocuring and water purification.

An IP listing is available.

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