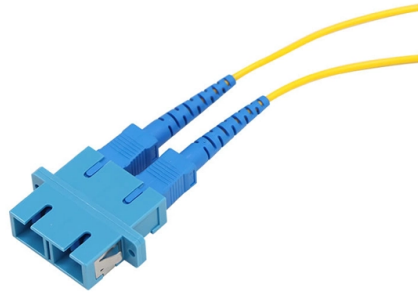


Photo-hydrogen ionization module



Overview

PHI utilizes a broad-spectrum, high intensity UV light targeted on a hydrated quad-metallic catalyst. The UV light in conjunction with the catalyst promotes the conversion of naturally occurring water vapor into airborne molecules of hydrogen peroxide (H_2O_2). (PHI or Photo-hydro-ionization) is an advanced Indoor Air Quality (IAQ) technology developed by RGF Environmental Group to minimize and neutralize indoor air pollutants such as bacteria, viruses, mold, gases (VOCs) and odors. In this phenomenon, a photon of angular frequency is absorbed by an electron that occupies the ground state of a hydrogen atom. The final energy of the electron, where is the (negative) hydrogen ground-state energy, is. Resonance-enhanced multiphoton ionization (REMPI) is a technique applied to the spectroscopy of atoms and small molecules in which a tunable laser can be used to access an excited intermediate state.



Article Content

Photo-ionization | Photoelectron, Electron Emission, Photon | Britannica

Photo-ionization, the interaction of electromagnetic radiation with matter resulting in the dissociation of that matter into electrically charged particles. The simplest example, the photoelectric effect (q.v.),

Photothermal interface with high-adhesive superhydrophobicity to ...

Besides, the pedestal with superhydrophobicity and photothermal effect can provide high-temperature gas-solid reaction sites for photocatalyst microneedles to thermodynamically promote

Airsource Air Source 3000 Replacement Module #55103

Replacement Photo-Ionization Module for Shaklee's Airsource 3000. Never used, still in original packaging and bubble wrap.

Air purifiers: The PHI Package Unit by RGF uses Photohydroionization ...

Air cleaners, HVAC filters, air purifiers — they can help reduce airborne contaminants including viruses in taprooms, restaurants and brewing facilities — but as the CDC is quick to note

Photo-Ionization

As a final example, let us investigate the photo-ionization of atomic hydrogen. In this phenomenon, a photon of angular frequency is absorbed by an electron that occupies the ground state of a hydrogen

Photo-double ionization of molecular hydrogen

The angular distribution of the correlated electron pair emitted in single-photon double ionization of the hydrogen molecule is analysed and calculated using a variety of approximations. Attention is directed

UV photoionization ion mobility spectrometry: Fundamentals and ...

Abstract UV photoionization (UV-PI) is a promising non-radioactive ionization method for ion mobility spectrometry (IMS). It could work at either direct photoionization mode or chemical

How Photoionisation Works | ION SENSE

How Photoionisation Works Discover how photoionisation detection (PID) sensors work and what sets ION SENSE® apart in this in-depth explainer. At the core of every PID sensor lies a high-energy

Ralf Zimmermann and Luke Hanley (Eds.): Photoionization and photo ...

The first two chapters cover the fundamentals of vacuum photoionization and resonance-enhanced multiphoton ionization (REMPI), before chapters three and four deal with analytical applications of single

Photo (electro)catalytic Water Splitting for Hydrogen Production

As an energy carrier characterized by its high energy density and eco-friendliness, hydrogen holds a pivotal position in energy transition. This paper elaborates on the scientific

Photoionization of Atoms | Springer Nature Link

The detailed understanding of single-photon ionization processes in atoms described in this chapter have recently proved useful in interpreting more complex interactions of electromagnetic radiation

Photoionization Detectors (PID) | Honeywell

Utilizing advanced ionization technology, these portable devices deliver rapid and accurate readings, making them essential for environmental monitoring and industrial safety.

Statistical and quantum photoionization cross sections in plasmas ...

Most of the matter in the universe is ionized and in the so-called plasma state. 1–3 There are essentially two main sources of ionization: collisional ionization due to particle impact (by

Building on a Legacy of Photoionization Detectors

From the 1970s to the present day, photoionization detectors (PIDs) have been at the front line of efforts to detect volatile organic compounds.

Photoelectrode Fabrication and Modular PEC Reactor Integration for ...

Here, we present a modular PEC platform using hematite photoelectrodes fabricated via a scalable polymeric precursor method with uniform Al/Zr comodification to enhance charge transport and

A combined photoionization time-of-flight mass spectrometry and laser ...

This would allow the time evolution of the mass spectra to be observed in real time, much like what is done with any other continuous ionization source. Electron impact spectra are also

Photoionization of Electrons in Degenerate Energy Level of Hydrogen ...

Photoionization dynamics of bounded electrons in the ground state, the first and second excited states of a hydrogen atom, triggered by ultrashort near-infrared laser pulses, have been

Micro photoionization detectors

Most commonly used PIDs are nevertheless not universal because some molecules are not detected if their ionization energy is lower than that provided by the light source used, usually

Entanglement in photo-ionization process | Scientific Reports

We present the results of a comparative study of the entanglement in the photo-ionization process for various ionization regimes, including the tunneling and the multiphoton

Development of a hybrid reaction module linked to ...

Development of a hybrid reaction module linked to liquid-phase plasma and electrolysis for hydrogen production with wastewater decomposition

A thermally synergistic photo-electrochemical hydrogen generator ...

For photo-electrochemical hydrogen production to become viable on a large scale, not only efficiency but also power density must be optimized. Here, the authors explore the impact of

US7988923B2

A device, system, and method, for the formation of advanced oxidation products by contacting a hydrated catalytic surface of a catalytic target structure with broad spectrum ultraviolet light in the 100

Photoionization

Several photons of energy below the ionization threshold may actually combine their energies to ionize an atom. This probability decreases rapidly with the number of photons required, but the

A thermally synergistic photo-electrochemical hydrogen generator ...

Device performance, dynamic response and stability are investigated, demonstrating the ability to produce hydrogen stably under varying conditions for more than two hours.

Solar-driven (photo)electrochemical devices for green hydrogen ...

This section provides a detailed overview of three various configurations of PEC-MH setups that combine solar hydrogen production and storage with its subsequent hydrogen release via

A scalable solar-driven photocatalytic system for separated H

Here, the authors report a design for a photocatalytic water-splitting system that efficiently produces hydrogen and oxygen in separate cells.

(PDF) Photoionization microscopy for a hydrogen atom in parallel ...

Liu studies the photoionization microscopy for a hydrogen atom near a metal surface and in parallel electric and magnetic fields [23, 24] with a semi-classical method and wave-packet ...

The hydrogen molecule under the reaction microscope: single photon ...

Article information Abstract We studied the photo double ionization of hydrogen molecules in the threshold region (50 eV) and the complete photo fragmentation of deuterium molecules at

Photo-electrochemical green-hydrogen generation: Fundamentals and ...

Scalable, cost-effective production and earth-abundant material platforms for clean energy sources such as green hydrogen are key research problems. U

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://estlascleaning.co.za>

Email: info@estlascleaning.co.za

Phone: +27 63 214 8579

Address: 22 Oxford Road, Parktown, Johannesburg, 2193, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

