附件四、技術說明表

水溶液中之電漿產生裝置

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2006 美國加州大學柏克萊分校 博士
2015~迄今 台大化工系 教授

市場及需求: 本技術可用於連續線上同時檢測多種重金屬，進行放流水或工業廢水中所含之重金屬之檢測。本發明在製程監控與環境監測等各領域均有極大需求。

技術摘要(含成果): 本發明係用於水溶液電漿產生專置中，其可有效提昇上述連續與線上水中重金屬檢測之偵測極限、精密度與準確度，適合發展為工業用之重金屬檢測裝置。

優勢: 目前工業用重金屬連續檢測裝置均成本昂貴、一台設備僅可測量單一金屬、對干擾的耐受性差、且會產生大量有毒廢液，本技術提供一種可進行線上多種重金屬之檢測裝置,成本極具競爭力、適合環境、工安監測等多種重金屬檢測需求。

競爭產品: 市面上現有之連續重金屬檢測裝置，包括比色法與電化學法之裝置，這些已商用的產品比色法一套設備僅能量測一種重金屬、電化學法雖可量測二至三種重金屬，但僅適用於自來水或飲用水等相對成份單純之水樣；兩種商用設備均對干擾的耐受性差。

專利現況:
本研究團隊具有超過十年的電漿科學與電漿系統、與重金屬監測相關之研究經驗，近年來並發展多種創新形式的系統。

聯絡方式(請不用填):
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Device for Plasma Generation in Liquid

PI： Prof. Cheng-che Hsu
Department of Chemical Engineering, National Taiwan U.

Experience:

Plasma science, plasma-based processes, plasma applications.

Market Needs:

This technology can be used for the continuous online simultaneous detection of multiple heavy metals, allowing for the monitoring of heavy metals in effluent water or industrial wastewater. This invention meets the need for great demand in various fields such as process monitoring and environmental protection applications.

Our Technology:

This invention is used in the generation of aqueous solution plasmas, effectively enhancing the detection limit, precision, and accuracy of the aforementioned continuous and online detection of heavy metals in water. It is suitable for development as an industrial heavy metal detection equipent.

Strength:

Currently, commercially available equipment is expensive, with a single device only measuring one metal, poor tolerance to interference, and generate a large amount of toxic waste liquid. This technology offers the capability of online detection of multiple heavy metals, with highly competitive costs, suitable for multiple metal detection for environmental monitoring.

Competing Products:

Existing continuous heavy metal detection devices on the market include those based on colorimetric and electrochemical methods.

Intellectual Properties:

Our research team has over ten years of experience in plasma science and plasma systems, as well as in heavy metal monitoring research, and in recent years, we have developed various innovative forms of systems.

Contact (do not need to fill out):

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