國立臺灣大學技術行銷表

台大案號:06A-100908

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產品/技術名稱	製備太陽電池材料之技術
發明人/單位	呂宗昕、劉士賢、陳富珊
產品/技術說明	以化學還原法製備太陽電池材料之技術
應用範圍	將所得 IB-IIIA 族之合金硒化或硫化之後之產物可應用於太陽電池之 IB-IIIA-VIA_2 族光吸收層材料(如 $CuInSe_2$、$CuGaSe_2$ 或 $AgInSe_2$)。
產品/技術優勢	利用化學還原法，可以在低溫(低於 100^oC)、常壓及空氣之下快速製備奈米等級之 IB-IIIA 族合金,此合金將有利於有效製備 IB-IIIA-VIA_2 族化合物。經由化學還原法可以低成本之方式製備 IB-IIIA 族合金，進而能容易應用於太陽電池之 IB-IIIA-VIA_2 族光吸收層材料上。
市場潛力	由於大部分之 IB-IIIA-VIA_2 族化合物是由真空製程所得,其具有設備設置成本高及容易造成原物料浪費之缺點。而化學還原法為非真空製程，可降低生產成本，且非真空製程較具有量產潛力。
產品/技術 智財權保護方式	專利申請中
圖片 (已公開之成果可提供圖片)	

Marketing Abstract of NTU's Invention Disclosure

NTU's docket no:_____(由產學合作中心填寫)

CIAC contact：　　Tel：　　e-mail：

Title	Technology for preparing the materials used in solar cells
Inventor (s)	Chung-Hsin Lu, Sih-Hsien Liu, Fu-Shan Chen
Brief Description	Preparation of IB-IIIA alloys via the chemical reduction method
Fields of Application	The product selenized or sulfurized from the obtained IB-IIIA alloys can be applied to the IB-IIIA-VIA_2 absorber layer in solar cells (e.g. $CuInSe_2$, $CuGaSe_2$, or $AgInSe_2$).
Advantages	Via the chemical reduction method, nanosized IB-IIIA alloys can be rapidly prepared at low temperature (less than 100^oC), normal pressure, and in air. The synthesized alloys can be utilized to prepare IB-IIIA-VIA_2 compounds effectively. IB-IIIA alloys can be prepared in a low-cost route through the chemical reduction method, thereby facilitating its application to IB-IIIA-VIA_2 absorber layer in solar cells.
Market Potential	The conventional routes for preparing IB-IIIA-VIA_2 compounds are usually based on the vacuum system. However, the vacuum system has drawbacks such as the expensive investment in the equipment and low utilization rate of resource materials. On the contrary, the chemical reduction method is a non-vacuum and low-cost process suitable for the mass production.
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