

Dispersed Pt nanoparticles on N-functional group containing carbon

배강홍, 함동진, 이재성*

POSTECH

(jlee@postech.ac.kr*)

PEMFC is one of the most attractive energy sources due to high efficiency, clean energy. It can be applied for portable power source, electric vehicle and transportation. But it has some drawbacks for commercialization, especially, cost and durability. So, for successful commercialization, the effort is now focusing on lowering the costs and increasing the durability.

These days, there are some papers about the N-doped carbon support. These papers say N can modify the properties of the carbon structure, so, it can change surface states, electron-transfer rates and adsorption for electrocatalysis process.

This research shows the Pt nanoparticles loaded on N-doped carbon are more dispersed and uniform than non-doped carbon. So, I tested their activities using half cell system. And to study about the interaction between Pt and supports, I used HRTEM and XPS techniques.