

Novel nanocomposites of carbon nanotubes and tin nanoparticles with improved cycleability for lithium rechargeable batteries

의재현^{1,2}, 정희태^{1,*}

¹한국과학기술원; ²LG화학 기술연구원

(heetae@kaist.ac.kr*)

Carbon nanotubes can act as anode materials for lithium rechargeable batteries, but they cannot be used alone because of large irreversible capacities and low bulk density. Some of metals or semiconducting materials are also considered as good candidates for large specific energy compare to conventional carbon anode materials, however they show poor cycleability due to large volume change during charge and discharge.

The nanocomposites of carbon nanotubes and metal nanoparticles can be alternative candidate for anode materials, but they have another drawbacks related to large surface area. In this study, we proposed a novel nanocomposite design for improving cycleability of these anode materials for lithium rechargeable batteries.