

## **Investigation of the useability of polyester protective cover for PVDF-based polymer gel electrolytes**

Different techniques were used to investigate the possibility of using polyester thin film as a heat-protective cover for polyvinylidene fluoride (PVDF)-gel samples, in an attempt to stop or reduce solvent loss during thermal analyses. Two experimental techniques were used for this goal; namely hot polarized optical microscopy and hot wide-angle x-ray spectroscopy (WAXs). The measurements were taken using various configurations and conditions in the experimental techniques to check the usability of the polyester as a container-protective cover when the PGE samples undergo high heating loads. The results showed a significant effect on PVDF-gel electrolytes transparency, but no morphology changes were detected. This a good indication that encourages using this type of protective film in different applications such as Li-ion batteries.