

9 FURTHER WORK

This study has proven highly interesting with results indicating that if nanographite were present in a PEEK sample, which was subsequently processed in an extruder, there is a high probability that an enhanced rate of crystallization would be expected, and as such, consequential effects upon the processability of the materials would no doubt be experienced. This may translate as effects on the resultant conductivity of the composite. Further work must involve determining if the nucleating effect of the nanographite has a stronger effect on the percolation threshold of the nanocomposites than the aspect ratio, as was reported in a study carried out by Kalaitzidou *et al.*^[1]

In order to take the nanographite work carried out in this thesis one step further, it would be interesting to determine if doping the material in an oxidising acid would enhance the conductivity in a similar manner to that found when polypyrrole and carbon fibre were doped. If possible, it would open up potential processing options thus far unexplored.

9-1 References

1. K. Kalaitzidou, H. Fukushima, A. Askeland, L.T. Drzal, *The Nucleating Effect of Exfoliated Graphite Nanoplatelets and their Influence on the Crystal Structure and Electrical Conductivity of Polypropylene Nanocomposites*. Journal of Materials Science 2007. **43**: p. 2895-2907