



Offre de thèse

Organic semiconductors for improving the flexoelectric response of flexible polymeric films

Encadrements : Thèse de l'université d'Angers avec travail dans les laboratoires MOLTECH-Anjou à Angers et l'institut Electronique et de Télécommunication de Rennes (IETR) site de Nantes

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Sujet de Thèse :

The project deals with the study of a soft polymeric material, exhibiting a flexoelectric effect and potentially usable as a transduction material in a large strain/ curvature sensor in loaded structures, in the fields of civil engineering, aeronautics or smart textiles. Thanks to the flexoelectricity, the *direct* measurement of curvature is possible and is by definition simpler and more precise than the use of strain sensor within the objective of in situ structural health monitoring. From the viewpoint of transduction, the larger the flexoelectric coefficient, the more sensitive the response of curvature sensor. In order to enhance the effect, the chosen approach consists in using semi-conducting molecules/polymers. Even if the improvement of dielectric and flexoelectric properties is clearly the main objective in terms of usable properties, a particular emphasis will be made on the development of environmentally friendly elaboration process of polymer films.

Candidature : Toute candidature sera à effectuer par le site de l'Université Bretagne Loire (UBL) : <https://theses.u-bretagne Loire.fr/3m/>