1108-53-85 **Luc Vrancken*** (`luc.vrancken@univ-valenciennes.fr`), LAMAV, Campus du Mont Houy, 59313 Valenciennes Cedex 9, 59313 Valenciennes, Nord, France. *Isotropic Lagrangian and affine immersions.*

The notion of a submanifold with isotropic second fundamental form was first introduced by O'Neill. Namely, if

$$< h(X(p), X(p)), h(X(p), X(p)) >= \lambda(p) < X(p), X(p) >^2,$$

for any $X(p) \in T_pM$, we say that M has isotropic second fundamental form. If λ is independent of the point p, the submanifold is called constant isotropic.

For Lagrangian submanifolds, the first result about isotropic submanifolds was obtained by Naitoh, in his study of submanifolds with parallel second fundamental form. Later such submanifolds were studied and classified by Montiel and Urbano (1988).

In this talk we will deal with several posible generalisations of these results, i.e. we will discuss

1. Lagrangian submanifolds for which

   $$T(X, Y, Z, W) =< \nabla h)(X, Y, Z), JW >$$

   is isotropic

2. Lagrangian submanifolds for which

   $$T(X, Y, Z, W, U, V) =< \nabla h)(X, Y, Z), (\nabla h)(W, U, V) >$$

   is isotropic

3. Affine hypersurfaces with parallel difference tensor in affine differential geometry

4. Indefinite Lagrangian submanifolds with isotropic second fundamental form

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