

# **Coisotropic branes**

## **in symplectic geometry**

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A brane in a symplectic manifold  $M$  is a coisotropic submanifold  $N$  together with a closed 2-form which is compatible in a specific sense. Despite being defined in terms of symplectic geometry, branes involve complex geometry in an essential way. We will make some remarks on the case  $N=M$  (space-filling branes), i.e. the case in which  $M$  carries a holomorphic symplectic form. For branes supported on lower-dimensional submanifolds, we then address the question of infinitesimal deformation of branes, and whether all coisotropic submanifolds nearby a given one are themselves branes. This talk is based on ongoing work with Charlotte Kirchhoff-Lukat.