**Jürgen Schmiegel**

Department of Engineering, Aarhus University, Inge Lehmanns Gade 10, 8000 Aarhus C, Denmark

**Incompressible, isotropic and skewed vector ambit fields in two dimensions**

We discuss explicit modelling of vector fields in two spatial dimensions within the framework of ambit stochastics. Our model construction is based on the concept of stream functions that is of particular relevance for two dimensional turbulent flows. Having in mind applications to such flows we focus on differentiable turbulent velocity fields that are homogeneous, isotropic and incompressible and reveal skewed velocity increments.