**2D Caustic Skeleton I:**

**the Statistics of the Topology of the Deformation Field**

1. Introduction
2. Caustic Skeleton by example:

Cosmic Web connectivity and the Topology of the Deformation Field

1. Caustic skeleton in 2D: formalism
2. Primordial Perturbations:
   1. primordial density field
   2. Fourier space and Power spectrum
   3. Scale space
3. Statistical properties of the Caustic Skeleton:
   1. Lagrangian space
   2. Eulerian space
   3. late time cosmic web: the caustic skeleton evolved
4. Topology of the Cosmic Web:

Morse-Smale complex & Deformation field

* 1. Density field Morse-Smale complex
  2. Deformation field Morse-Smale complex
  3. Scale-space and Multi-scale topology

1. Conclusion and Discussion