

Focus Project: On Pseudo-Random Number Generators

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Introduction

Goals: Methods:

A Fractal Origin for the Mass Spectrum of Interstellar Clouds (Elmegreen & Falgarone, 1996)

First Results

Fractal dimension D provides a quantitative measure of border complexity.

Perimeter–Area Relation:

$$P \propto A^{D/2}$$

(e.g., *The Fractal Geometry of Nature*, Mandelbrot 1982)

Approach:

- Data: Herschel dust emission maps of *Orion* (Lombardi et al., 2014).
- Measure perimeter and area of each contour.
- The method allows one to pierce through the cloud and measure how border complexity evolves with increasing column density.



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