

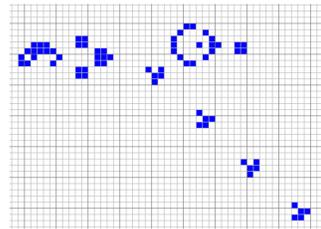
ON CATALOGUING OF INCOMPRESSIBLE FLAT-PLATE BOUNDARY LAYERS

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... it is not meaningful to talk of the properties of a turbulent flow independently of the physical situation in which it arises... The turbulence problem may then be no more than one of **cataloguing**
Saffman, 1977



simple rules,
complex phenomena



Turbulence

Game of Life

Principles

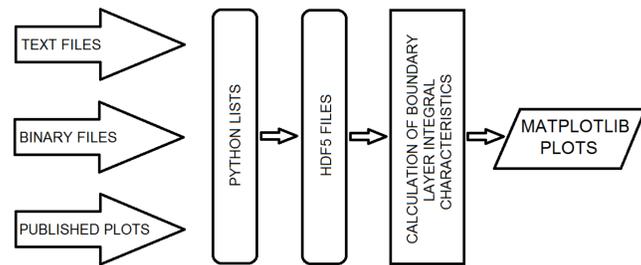
1. Searching for unique not common features
2. Results of modeling should be expressed in terms of a real experimental setup
3. Using of dimensional quantities

von Karman integral equation

$$\Delta p_{\Sigma} = A_{\tau} - A_p + C_1$$

Δp_{Σ} - cumulative momentum loss
 A_{τ} - work of skin friction
 A_p - work of pressure

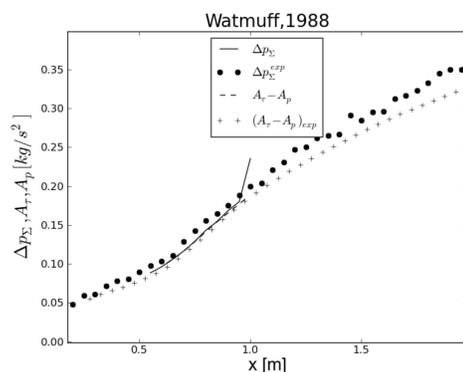
Scheme of Data Processing



LESSONS

- ⚡ Cataloguing approach may be a better choice for education. Analysis of a special case can provide a better understanding of a phenomenon than the 'universal' graph.
- ⚡ Even classic data may contain mistakes. Cataloguing is an additional chance to find them.
- ⚡ One of the principal difficulties in using the results of experimental research to test theoretical and numerical models is that often the experiments were not what they were believed to have been (George, 1990)
- ⚡ Any experiment is, in fact, three experiments: the experiment which was to have been performed, the experiment believed to have been performed, the experiment actually performed (George, 1988)

Terms of von Karman Integral Equation



I am definitely prejudiced in favor of the similarity laws known as the law of the wall and the law of the wake..., primarily because I feel that to abandon these concepts is to revert to the **most primitive kind of empiricism** in any description of turbulent boundary-layer flow
Coles, 1962



History
 Art
 Astronomy
 Biology
Cataloguing!