

[Arnal, D.](#)

Control of laminar-turbulent transition for skin friction drag reduction. (English)

[Zbl 0885.76025](#)

Meier, G. E. A. (ed.) et al., Control of flow instabilities and unsteady flows. Wien: Springer. CISM Courses Lect. 369, 119-153 (1996).

Summary: The objective is to discuss the possibilities of skin friction drag reduction in two- and three-dimensional flows. The discussion is restricted to low speed and transonic problems. The stabilizing or destabilizing effects of pressure gradient, heating/cooling and suction are explained and illustrated by experimental results obtained in wind tunnel or in free flight conditions. Wave cancellation techniques are also presented. An important part of the paper is devoted to the use of the linear stability theory as a practical tool for transition prediction.

For the entire collection see [[Zbl 0854.00012](#)].

MSC:

[76E05](#) Parallel shear flows in hydrodynamic stability

[76F10](#) Shear flows and turbulence

Cited in **4** Documents

Keywords:

[low speed flows](#); [transonic flows](#); [heating cooling](#); [pressure gradient](#); [suction](#); [wind tunnel](#); [free flight conditions](#); [cancellation techniques](#); [linear stability theory](#)