Additive filters for LES MASSIMO GERMANO, Politecnico di Torino
- Italy — In the framework of a research devoted to analyze the algebraic properties
of the filtering operators and the possible constraints that they impose on the fil-
tered terms, some recent results concerning the additive filters are presented. These
filters are produced by summing two or more generic filters and in a sense they are
dual of the product filters that have been usefully employed in the dynamic mod-
eling procedures. In this contribution we present particular additive RANS/LES
and RANS/DNS filters and their properties are discussed in detail. As regards the
possible applications it is interesting to remark that the associated subgrid stresses
are derived by mixing filters, and not by mixing models. As such they seem appro-
priate to the development of controlled hybrid RANS/LES and RANS/DNS filtering
procedures that gradually match different computational zones.

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