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**Natural operators on conformal manifolds.** (English) [Zbl 0805.53011](#)

Kowalski, O. (ed.) et al., Differential geometry and its applications. Proceedings of the 5th international conference, Opava, Czechoslovakia, August 24-28, 1992. Opava: Open Education and Sciences, Silesian Univ.. Math. Publ. (Opava). 1, 335-349 (1993).

Summary: In this note, we discuss the problem of the classification of all linear local operators naturally defined on all conformal manifolds with fixed dimension  $m > 2$ . In particular, we present a general definition of the natural operators, we analyze the possible orders of the operators and we try to present a concise summary of some results, both in the real and complex settings, including also a full discussion on the so called singular cases. We omit a detailed treatment of the curved conformal manifolds where no complete classification has been obtained yet, and we focus on the special case of conformally flat manifolds. The results are heavily based on well known facts from the representation theory of parabolic subalgebras in the Lie algebras of the orthogonal groups, but we try to make our exposition as elementary as possible.

For the entire collection see [\[Zbl 0797.00017\]](#).

**MSC:**

**53A55** Differential invariants (local theory), geometric objects  
**58A20** Jets in global analysis

Cited in **1** Review  
Cited in **10** Documents

**Keywords:**

[natural operators](#); [differential operators](#); [conformal manifolds](#); [Riemannian manifolds](#); [Verma modules](#)