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Daniela Mihai* (dam33@pitt.edu), Dept of Mathematics, Univ. of Pittsburgh, 301 Thackeray Hall, Pittsburgh, PA 15206, and **George Sparling**. *Conformal algebras in 3D and their generalization*. Preliminary report.

We study the algebra $SO(p+1, q+1)$ in $n=p+q+2$ dimensions and decompose it with respect to the Poincar Algebra of $SO(p, q)$. We obtain that the full enveloping algebra takes the form $R[D]$ where D is the dilation operator and R is a non-commutative non-Lie algebra of dimension $(n-2)(n-1)/2$. We also obtain expressions for the Casimir operators of the full algebra as invariants of the algebra R . The low-dimensional case of this approach will be treated in detail. (Received September 28, 2005)