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Fusun Akman* (akmanf@ilstu.edu), Department of Mathematics, 309D Stevenson Hall, Normal, IL 61790-4520, and **Lucian M. Ionescu**. *Higher Derived Brackets and Deformation Theory*.

We prove the equivalence of several different definitions of higher order differential operators and define differential operators of lower (negative) orders. We then study derived Lie and sh-Lie brackets on an abelian subalgebra of a Lie algebra as well as the cohomology of a certain type of differential graded Lie algebra. Several new examples of derived brackets and new insights into Kosmann-Schwarzbach and T. Voronov's examples are supplied. Topological vertex operator algebras are viewed as prime candidates of a third method to obtain derived brackets. (Received August 03, 2005)