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Neil Epstein* (nepstein@uni-osnabrueck.de), Univesität Osnabrück, Institut für Mathematik, 49076 Osnabrück, Germany, and **Javid Validashti**. *Hilbert-Kunz multiplicities of products of ideals*. Preliminary report.

The Hilbert-Kunz multiplicity has long been used in prime characteristic singularity theory and in order to determine when two ideals have the same tight closure. In this work, we develop inequalities relating the Hilbert-Kunz multiplicities of a pair of ideals to that of their product. In doing so, we obtain surprising connections with the tight closure of ideals, the class of parameter ideals, and low-dimensional cases. (Received September 21, 2011)