

- SHENLING WANG, GUOHUA WU, *On a Hierarchy of Plus-cupping Degrees.*

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Say that a c.e. degree  $\mathbf{a}$  is  $n$ -plus-cupping if for every c.e. degree  $\mathbf{x}$  with  $0 < \mathbf{x} \leq \mathbf{a}$ , there is a  $\text{low}_n$  c.e. degree  $\mathbf{b}$  such that  $\mathbf{a} \vee \mathbf{b} = 0'$ . Let  $\mathbf{PC}_n$  denote the class of  $n$ -plus-cupping degrees. This hierarchy of plus-cupping degrees was proposed by Li and Wang, who proved that there is a cappable 2-plus-cupping degree, which implies that  $\mathbf{PC}_1 \subset \mathbf{PC}_2$ . In the same paper, Li and Wang also claimed that every plus-cupping degree is 3-plus-cupping, and hence  $\mathbf{PC} = \mathbf{PC}_3$ . In this paper, we show the existence of a plus-cupping degree which can only be cupped to  $0'$  by high degrees. This refutes Li-Wang's claim mentioned above.