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**Don Hadwin\*** ([operatorguy@gmail.com](mailto:operatorguy@gmail.com)), 33 Academic Way, Math Dept Unh, Durham, NH 03824, and **Tatiana Shulman** ([tshulman@impan.pl](mailto:tshulman@impan.pl)), Institute of Mathematics of the Polish Academ, Warsaw, Poland. *Tracial Stability for  $C^*$ -algebras.*

We consider tracial stability, which requires that tuples of elements of a  $C^*$ -algebra with a trace that nearly satisfy a relation are close to tuples that actually satisfy the relation. Here both "near" and "close" are in terms of the associated 2-norm from the trace, e.g. the Hilbert-Schmidt norm for matrices. Precise definitions are stated in terms of liftings from tracial ultraproducts of  $C^*$ -algebras. We completely characterize matricial tracial stability for nuclear  $C^*$ -algebras in terms of certain approximation properties for traces. We also characterize the tracial stability of a separable unital  $C^*$ -algebra in terms of a new topological property of its maximal ideal space. (Received July 27, 2017)