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**Ye-Kai Wang\*** (yw2293@math.columbia.edu). *Minkowski identities for codimension-2 surfaces and an Alexandrov-type theorem.*

We prove two Minkowski identities for spacelike 2-surfaces in Minkowski spacetime or, more generally, spacetimes equipped with a conformal Yano-Killing tensor. The identities recover the classical Minkowski identities when the surface lies in a totally geodesic slice. As an application, we prove an Alexandrov-type theorem for 2-surface in the spherically symmetric spacetimes. If a surface has constant null expansion and zero torsion with respect to a null normal vector, then the surface, under a regularity assumption, lies in the shear-free light cone. This is a joint work with Mu-Tao Wang. (Received September 03, 2013)