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Expansion of spherical shell condensates SMITHA VISHVESH-
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02481 — Bose-condensed atoms in traps of novel geometries can show dramatic fea-
tures in time-of-flight measurements that are absent in conventional spherical trap
settings. The specific case of a trap creating a spherical condensate shell is pre-
sented. The dynamics of such a shell can yield a significant accumulation of mass
at the center upon release of the trapping potential. Moreover, the expanded cloud
can undergo self- interference and exhibit the associated interference fringes. These
features are substantiated by numerical simulations and studied for a range of in-
teraction strength between constituent atoms.

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