Bird beaks bear the brunt of bashing impact SABERUL ISLAM
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Warfare Center, TADD TRUSCOTT, Utah State University — Seabirds can dive
from 30 meters reaching speeds of 24 meters per second as they impact the wa-
ter reaching depths of 9 meters due to their momentum, and a further 25 meters
by active flapping. It is thought that their geometry, particularly the beak, allows
them to endure relatively high impact forces that could kill non-diving birds. Ac-
celeration data of simplified models of diving birds agree with simulated data for
one species, however, no reliable experimental data with real bird geometries exist
for comparison. We experimentally measured the impact accelerations of twelve 3D
printed models of diving birds (seven surface diving and five plunge diving) during
water-entry at different impact velocities using accelerometers.