Calculating Speed of Sound SHALABH BHATNAGAR, IUPUI —
Sound is an emerging source of renewable energy but it has some limitations. The
main limitation is, the amount of energy that can be extracted from sound is very
less and that is because of the velocity of the sound. The velocity of sound changes
as per medium. If we could increase the velocity of the sound in a medium we would
be probably able to extract more amount of energy from sound and will be able to
transfer it at a higher rate. To increase the velocity of sound we should know the
speed of sound. If we go by the theory of classic mechanics speed is the distance
travelled by a particle divided by time whereas velocity is the displacement of par-
ticle divided by time. The speed of sound in dry <u>air</u> at 20 C (68 F) is considered to
be 343.2 meters per second and it won't be wrong in saying that 342.2 meters is the
velocity of sound not the speed as it's the displacement of the sound not the total
distance sound wave covered. Sound travels in the form of mechanical wave, so while
calculating the speed of sound the whole path of wave should be considered not just
the distance traveled by sound. In this paper I would like to focus on calculating
the actual speed of sound wave which can help us to extract more energy and make
sound travel with faster velocity.

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