## Abstract Submitted for the TS4CF08 Meeting of The American Physical Society

Is Sound Also a Property of Space? VENKATA CHAGANTI — Absolutist regards SPACE as an entity in its own right with properties of its own. Further more, we (relationist, scientist and laymen) attribute many different sorts of properties to SPACE. In fact, we are able to distinguish every material from the other by its properties. We all know that SPACE is attributed by some of the properties listed below. 1. Electromagnetic Properties like  $\varepsilon_o = 8.55 \text{ x } 10^{-12} \text{ F/m},$  $\mu_o = 4\pi \times 10^{-7}$  H/m. 2. Empty Space is a poor conductor. 3. Empty Space is Transparent. 4. Space is penetrable by any particle/material. 5. Space is incapable of action. 6. Space is immovable fixed. 7. Space is infinite. 8. Space is finite but unbounded. 9. All bodies are place in space. 10. Space is Isotropic. And many more properties can be included. A SPACE is defined by its properties. Many of these properties may be made quite precise without any reference to an embedding space surrounding the SPACE of interest. SPACE as a physical object only makes sense if it can be detected, or if it can exert physical influences. Does the motion of an object through space lead to detectable effects? Can space act on a moving body in the way that the sea acts on a moving fish? In this paper a sincere attempt

is made to show mathematically that SOUND is indeed a property of SPACE.

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