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The Solidity Of Matter

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We know that matter is comprised of waves, but waves usually dissipate through their media very quickly and soon the energy becomes widely spread out; so why do the waves comprising solid matter remain localized in discrete quanta so well?

There are two reasons for this that I can identify:

1. The three dimensional standing waves that form particles of solid matter are comprised of inward and outward spherical waves that are superimposed (summed). When a weak spherical wave converges to a focal point, the energy contained in that wave increases in amplitude according to inverse square law, so that if the waveform is a stable standing wave, then a small region at the centre will have much higher amplitude than the rest of the waveform.
2. Using the principles of Energy Field Theory, one wave slows the progress of another waves through the same space. Therefore, the greater the amplitude of the wave, the more the wave's progress is slowed. This means that at the centre of the waveform that comprises the particle, where the amplitude increases dramatically due to the inverse square law mentioned above, the progress of the waves through the particle and out the other side will be slowed, causing the energy to 'pile up' at the centre and then spread out again as the wave flows away from the centre.

These two factors cause the energy density in the particle to suddenly increase, forming a sharp boundary (the classical boundary of the particle). This non-linearity causes the properties associated with solid matter.

Another effect to note here is that waves are partially reflected at a boundary (a point in space where the refractive index changes). As the amplitude of the wave determines the refractive index of the space, the wave sets up its own boundary conditions as the amplitude changes, allowing a stable standing wave to form.