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Lazarus Volumetric Compression technology

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Similar to the technology used in the , volumetric compression essentially squishes space and the distribution of mass down into higher dimensions. In essence, a door can literally contain a whole room.

It was created in early YE36.

Statistics

Type: Storage/Compression mechanism Designers: Lazarus Consortium Nomenclature: N/A Manufacturer: Lazarus Consortium Production: Mass Production

About the Lazarus Volumetric Compression system

Using technologies similar to both the Lazarus Stasis system and high-end gravitic centrifuges, the volumetric compression system works by creating a permanent self-sustaining fixture in six dimensional space - a sort of 'pocket'. By altering the rules of that pocket-universe, its rules can be aligned to match ours, allowing for materials and behaviour convergent and conductive to the storage of complex matter and energy, including life.

While fundamentally disconnected from our universe, it can be connected using a compression-projector. Importantly, energy is only used during the brief times where the connection is formed and matter and energy can be exchanged between the interior of the pocket and its exterior (our universe). Quantum communication between the higher dimension can still take place but transmission of energy or matter through any other means is physically impossible.

Very importantly, the volumetric compression does not express mass against the acceleration of whatever it is linked to unless in an open connected state. In addition, while the interior volume can be very large, the mass it can contain is inherently limited. When this limit is achieved, no more matter or energy can be allowed to enter the interior volume - limiting any further entry.

Anchor points

An anchor-point is essentially a connecting point between the higher dimension of the compression and

lower dimension of local space. It is the location in which the portal to enter or exit the volumetric compression will appear in three dimensions. Its existence usually requires the operation of specialist equipment - and the portal can exist in two states: Open or closed.

Anchor-points can be expressed as an address-space in six dimensions. If the number is known, provided no other projection-unit is assigned or involved, the contents of the compression volume can be opened.

States

In a closed state, the volumetric compression has little to no interaction with conventional three dimensional space, making the compression weightless. There are nearly zero electromagnetic interactions between external and internal space. In addition, its energy demands are virtually non-existent as the outer-skin of the compression itself acts as a zero-point conduit or net, meaning the volume is self-sustaining.

Only when open, can mass be stored or extracted. To enter an open state, the specialist equipment - known as a projector - requires a tremendous and sustained electrical charge to hold the portal open - making it unsuitable for the storage of a large generator or other device. This state cannot be maintained indefinitely - with its energy demands growing with time, meaning the open-state is only used when exchange is actually happening. The tremendous mass/volume ratio of the open state also translates into slowed acceleration and tremendous hull-stress when manoeuvring as well as a higher gravitational pull.

Emergency Measures

In the event the projector is destroyed, the space can be re-anchored using precision equipment and specialist techniques, though is usually not cost-effective given the contents of the compression. It is common practice for equipment to be inside the compression which allows the compression to be equalised with surrounding space in the event of a malfunction - though the decompression is extremely dangerous and is essentially lethal to any life inside the volumetric compression if performed inside a closed space smaller or equal to the interior volume of the volumetric compression.

Importantly, two competing projectors cannot open the same compression at the same time.

Applications & Limitations

Given the nature of super-hard materials used throughout the known universe, implementing volumetric compression is quite easy though it is usually not at all cost-effective by any means. Common applications might be to give a small cargo-vessel a much larger interior storage space or to give a powered-frame an internal cabin, supplies and very very basic living space.

Most importantly, the higher the compression ratio or the internal volume, the more energy is required to actually open the compression.

OOC Notes

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