



THE MIZENDAR GALAXY

A Space Opera Setting



A group of aliens occupying a small cluster of aether
nebulae in a distant region of the galaxy.

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The planet Earth is a distant memory; a ruin from our prehistoric past. Humans now occupy a small corner of the Mizendar galaxy, where space is filled with the Aether nebulae, and alien empires lay claim to nearly every star system known. Civilization has spent the past hundred years emerging from a galactic dark age.

Introduction

Mizendar is a backdrop for stories and games that may mix many genres, but focusing on space opera and fantasy. It is not a hard science fiction setting, especially considering its fantastic speculations and reinventions concerning the *aether* (which is similar in some respects to the luminiferous *ether* speculated to exist by some scientists on the planet Earth in the 19th century). As a result, the reader will find many inconsistencies concerning current scientific data. One is encouraged to discard today's scientific assumptions for the benefit of enjoying the possibilities presented by the setting. It is, after all, another galaxy.

The Mizendar Galaxy

Mizendar is an irregular dwarf galaxy composed of a cluster of gigantic nebulae whose interaction of elements has helped to generate some very unusual physics. Stars in this galaxy are smaller, cooler and denser than those found in most galaxies, and are also much closer in proximity to one another. Similarly, planets found in solar systems have much smaller orbits.

How did such a galaxy come into existence? That's a question many local scientists and philosophers have been asking for centuries. It is a mystery that may someday be solved through perseverance, dedication and unrelenting exploration of the hidden corners of the Mizendar galaxy.

Nebulae of Mizendar



Aetherspace

In most areas of the Mizendar galaxy, an energetic element called *aether* fills the former vacuum of space. It cannot be physically contained, as it passes through solid matter (except for a rare element known as *shionium*), and penetrates the atmospheres and lithospheres of planets. Aether reacts and interacts with most forms of energy, including radiation from the stars, magnetic, electrical and gravitic forces. Its coactions with bioelectric energy provides living beings with a diverse range of potential adaptations in this unique environment

The existence of aether in the Mizendar galaxy makes possible things not found in more common galaxies. Without it, many systems would tear themselves apart through tidal forces as they pass near one another in their close orbits, and many stars would become more hazardous if not for the tempering effect of the aether.

One microscopic life form has adapted profoundly to exploit existence in aether. It is a symbiont that can absorb cosmic and solar radiation that its host might be exposed to. The effect is minimized on planets, where such radiation is mostly blocked. The aether microbes provides life support to the host, allowing the host species to survive in space. Many space faring species take part in this symbiosis, and are not even aware of it. They merely think it is as natural to 'breathe the aether' as readily as to breathe air.

In some areas of aetherspace, aether microbes are so prevalent that many forms of life thrive where they otherwise could not survive. Creatures can interact with the fluidic dynamics of aether on a bioenergetic level, rather than a physical level. There are asteroid belts that are veritable islands, with a complete ecosystem including plants and trees, birds that 'fly' and fish that 'swim' in aetherspace.

Travel in Aetherspace

Interplanetary distances in Mizendar are commonly measured in 'Aether Leagues' (ALs). Most star systems have habitable planets at about 1 AL from their sun, and many systems have planets as far out as 200 ALs, though 100 ALs is more common for an average system with under a dozen worlds.

The distance represented by ALs are relative from system to system. Hotter stars energize the Aether more, giving Aetherships greater relative speeds. At the same time, hotter stars have larger orbits, and the increased distance effectively cancels any increase in speed. Thus, ships travel at the same relative speed in all systems. The distance of 1 AL varies depending on the age and energy output of the star. While a cooler Red star's Life Zone is close to the star, and a hot Blue star's Life zone is far away, the relative amounts of energy required to travel to the same orbit make the trip take the same amount of time. So while the true distances are vastly different, it takes the same amount of time for the same ship to travel from one orbit to the next, or from one Warp Point to another. When an absolute distance is required, there is some evidence that the average distance of 1 AL is about 50 million miles.

The fastest ships employ technology that uses the aether itself as a source of power, such as aether sails and aether engines. At present, the maximum relative speed achieved in most systems is 30 AL/day, enabling ships to travel across a system in about a week.

Unlike the vacuum of intergalactic space, objects moving through Aetherspace experience friction. Constant motion requires constant force. A ship cannot accelerate beyond the maximum speed because of this. A drifting body will eventually slow down and stop if it is not gathering energy from the aether, or under the influence of local gravitic forces.

Heavy Aether

If a ship moves out to the edge of a solar system (at a radius of 200-400 ALs), it reaches the Heavy Aether Barrier. Beyond this are the denser gasses, dust particles, and more chaotic aether currents which make up the vast nebulae of Mizendar. A star's aether-solar winds help create a kind of bubble or shell around the system, keeping most of the Heavy Aether out of the system.

Skilled pilots can 'skip' their ships along an Aether Barrier's edge, catching the currents and increasing their speed. However, this can be very dangerous, as the currents often change direction dramatically, and a ship that loses control can go spinning off through the barrier and into the Heavy Aether.

Entering Heavy Aether is dangerous. It carries ambient energies that can wreak havoc on electronics, as well as tax the nervous systems of most life forms. Its energies frequently cause psionics to backlash, and distortion of communication and sensor signals. Heavy Aether puts tremendous stress on aether engines, and can react with

engine emissions catastrophically. The vast majority of ships that attempt to travel through the Heavy Aether are destroyed or lost forever.

Starships that manage to survive the Heavy Aether find that it can have an unpredictable effect on travel time. There is no reliable method for calculating how long it may take to travel a given distance between stars, except that the vast distances ensure a very long voyage. The Heavy Aether's density and turbulence may provide a boost to a ship's speed, slow it down, or turn it topsy-turvy.

Heavy Aether is a commodity sought after by some research scientists, but the difficulty in containing even a small amount, combined with its volatile and unpredictable nature, makes it a controlled substance that most sane pilots prefer to avoid.

The Vortex Network

Fortunately, there is little need to enter the Heavy Aether of the deep nebulae. Star systems are connected by a network of aether vortices. An aether vortex is a strong current that usually exists close to the edge of a system's barrier, acting much like a wormhole, or 'jump-point', to another system's vortex. Most systems have between two to four vortices, while a few have only one, and are 'dead-end' systems in the vast galactic network. An Aether Vortex is sometimes called a *Warp Vortex*, and its entry point is called a *Warp Point* by pilots and navigators.

Vortices are two-way currents through the Heavy Aether between stars. Sometimes a vortex only flows in one direction, and may occasional reverse direction. When there is a surge in the currents of the Heavy Aether, warp points can close, either permanently, or temporarily. They may re-form in a different location, or connect to a different system. Sometimes a vortex can shrink or expand, changing travel speed, or presenting high turbulence. Needless to say, if a ship is inside a vortex during any of the above transformations, it can be disastrous. A skilled and careful sensor scan of a vortex can often reveal such dangers shortly before they occur.

Travel speed through a vortex is extremely fast - hundreds of times the speed of light, and faster than any ship could ever normally travel. Most ships jump through a vortex and arrive at the connecting system in a few hours, or in as much as two days, depending on several factors including the distance between systems, the density of the Heavy Aether, and the size and speed of the vortex currents themselves.

Star systems are generally only connected by a vortex to other systems which are nearby. On rare occasions a vortex may lead to a very distant system, but these vortices are usually temporary or very unstable phenomena.

Warp points usually only form at the edge of star systems, near the Heavy Aether Barrier. Some form closer to a star, and some form near proto-stars or other comic formations. Vortices may linger long after a star has died. Normally a star keeps the Heavy Aether out of a system, but a protective aether shell may remain after a star dies, having been fueled by an expanding planetary nebula.

It has been observed that there are star systems that seem to be unconnected by any vortex. Such systems may be forever isolated, or connected by an unstable vortex that opens periodically. There are also a few known star clusters that form closed vortex networks, separated from the rest of the galactic network. They occasionally establish random, temporary connections to an outside system.

Mapping the Galaxy

Most maps of the Mizendar galaxy are not physical representations of three dimensional space. Maps are projections of how its inhabitants view the galaxy. The galactic map is two-dimensional, but the galaxy is not. Despite this fact, such maps are as accurate as they need to be. No one has been far enough outside of the galaxy to view it as a whole, and the nebulae tend to shift the locations of visible stars. Besides, the stars themselves drift in the currents of the Heavy Aether of the nebulae, so their positions are constantly changing.

Although scientists have modeled three-dimensional maps based on their estimates of where the stars are relative to one another, the two-dimensional map is still accepted by space-farers for two reasons. Firstly, it is easier to read. Secondly, knowing the true distance and direction to another star isn't necessary for navigation. Knowing where the aether vortices are and how systems connect to one another is more important, and the present maps do a fine job of showing that information.

The only reason a pilot might need a three-dimension map of the galaxy is if he wanted to take a direct path through the Heavy Aether... and that means either he's crazy, or he has some new technology that might allow such travel safely. Thus, most people are somewhat suspicious of anyone putting much effort in finding or making such maps.

The grid used by most maps is good for showing approximate distances and locating objects not connected by the aether vortex network. Vast interstellar distances are measured in 'Heavy-Aether Leagues' (HALs). One HAL equals 1000 ALs. A typical map grid square represents 50 x 50 HALs, and may contain dozens of stars.

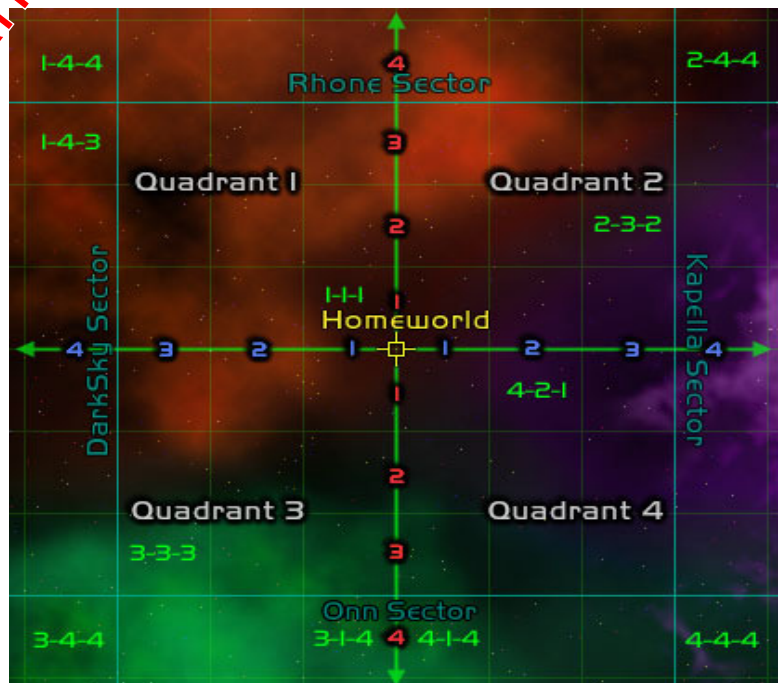
The Rhone Alliance places Homeworld at the center of this galactic grid for reference purposes. The cardinal directions of North, South, East and West are used relative to Homeworld's planetary orbital plane. Quadrant 1 is northwest of Homeworld, Quadrant 2 is northeast, Quadrant 3 is southwest, and Quadrant 4 is southeast.

Quadrants are divided onto sectors to help define areas within nebulae. A sector is further divided into a 6x6 grid, of 36 'subsectors' each 50 HALs across. Homeworld is in the center of the Homeworld sector, with three subsectors in every direction. The Rhone sector is north of the Homeworld sector. The Onn sector is south of the Homeworld sector, while the DarkSky sector is west, and the Kapella sector is east. Far west of Homeworld, beyond the DarkSky sector, is the nearest edge of the galaxy.

The diagram at right shows the Homeworld sector as the center of the Mizendar galaxy's four quadrants.

The grid shows subsector numbers along the X (east/west) and Y (north-south) axis, and locates several sub-sector examples in green. For example, subsector 1-1-1 is immediately northwest of Homeworld, while 2-1-1 would be northeast. Locating any sector is noted as: Q-X-Y, where Q is the quadrant; X and Y are the number of subsectors along the axes from Homeworld.

Homeworld is the only system considered to be in subsector 0-0-0, which is technically not a sector at all, but a reference point.



Sector Map of Known Space

