



A Guide to Wormhole Space in EVE Online

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Chapter 1

Wormholes and W-Space

Most EVE Online pilots stay in the (relative) safety of known space; those systems which appear on the starmap and are regularly connected by stargates. The map of New Eden is relatively unchanging, with systems always linked to neighboring systems in the same configuration. Not so with wormholes, which lead to all sorts of unknown and unexpected starsystems.

Wormholes can appear at random in any system, and can connect any two systems together, whether they be high security, low security, nullsec, or any combination thereof. Most importantly, they can lead to the mysterious wormhole space, which is the focus of this guide. Exploring wormholes and living therein can be a costly and challenging endeavor, but the rewards are certainly worth the risk, with millions and billions of ISK of opportunity to be found inside these lawless reaches of space.

Wormholes are a veritable playground for gankers and other PC pirates, so stealth, defense, and flying in fleets is essential. An constant adage in EVE is “don’t fly with anything you can’t afford to lose,” but this advice is doubly true for wormhole space.

To reduce confusion, the following terms will be used throughout this guide:

Wormhole: the physical, in-space entrance to a new starsystem

Wormhole Space: uncharted systems that are only accessible through wormholes

1.1 Finding Wormholes

Wormholes are always found through exploration, requiring a pilot to use probes to pin down its exact location. This is not a probe scanning guide, but knowledge of their use is essential for anyone wishing to make a living exploring these unique systems.

Each race has a frigate designed with scanning in mind as well as a higher-tier covert ops-class ship with even greater bonuses and abilities. Use of these ships when trying to find wormholes or when initially exploring new wormhole space is highly recommended.

Minmatar: Probe, Cheetah

Caldari: Heron, Buzzard

Gallente: Imicus, Helios

Amarr: Magnate, Anathema

Appearing as “Unknown” cosmic signatures, when you have attained a strong enough scan signal it will be listed as “Unstable Wormhole.” When warping to a wormhole it is very important to bookmark it after you land on grid; your scan will put you some distance away from it and slow-boating to an entrance is a good way to get killed.

Additionally, make sure to bookmark the other side of the wormhole after you cross through – you never want to have to re-probe just to find the exit, particularly when being chased by angry wormhole space inhabitants or hostile players!

1.2 Wormhole Attributes

Jumping through a wormhole is much like jumping through a stargate; your ship rockets through space and arrives in a new place. You receive the same 10-second session change timer and one-minute gate cloak as normal, but there are distinct differences which are important to outline:

Distance: You will spawn at a variable distance from the wormhole, primarily dependent on the mass of your ship. Smaller ships spawn closer, larger ships arrive farther away. Wormholes can be interacted with from a distance of 5km.

Polarization: No ship can jump through a wormhole in the same direction a second time within 5 minutes; if you entered system B from system A, you could not make the same trip within the next five minutes. This also applies traveling the other way; in short there is a 5 minute timer if you change your mind after turning around.

Each wormhole has several specific properties, some of which change with time or in-game events. They give detailed clues as to where the wormhole leads, but the only way to be sure is to jump through and find out. Be warned that some corporations regularly put interdicator bubbles around the entrances to their wormhole space, hoping to catch unsuspecting explorers.

Most of these attributes can be found by right-clicking the wormhole and selecting “Show Info.”

1.2.1 Destination

While never being exact, each wormhole will detail the type of space it leads to in order to give explorers a better idea of the dangers that await them. Wormhole space is designated Class 1 through Class 6, with the higher class yielding much deadlier, but lucrative, space.

Each designation begins with “This wormhole seems to lead into ...”

- Unknown parts of space – this wormhole leads to Class 1, 2, or 3 wormhole space.
- Dangerous unknown parts of space – this wormhole opens up into Class 4 or 5 wormhole space.
- Deadly unknown parts of space – through this entrance is a Class 6 system; be very cautious!

You can also receive a result telling you that the wormhole leads to high-security, low-security, or null-security space. The endpoints of these types of wormholes can lead anywhere in New Eden, perhaps dozens of systems away from the origin, or more.

1.2.2 Wormhole Name

Every wormhole has an “entrance” side and an “exit” side. When investigating a wormhole, if it appears as K162 on your overview, you have discovered an exit, which provides little to no information as to the type of space it connects to.

If the wormhole instead reports as the letter “A” followed by three numbers, you have discovered the entrance side. There are many websites and guides online that can tell you a great deal about the destination system based on the wormhole’s name, and it is always advisable to look up your target before jumping through, if possible.

1.2.3 Wormhole Lifetime

All wormholes have a variable lifetime before they dissipate, normally between 16 and 36 hours. Even if nothing else closes the wormhole they will fade into the ether after this timer runs out. Wormhole lifetime readings are given as follows:

- Life cycle has not begun – you have found a wormhole that has not spawned yet, but will appear within the next 5 minutes.
- Should last at least another day – the wormhole is likely to last a while, possessing at least 50% of its remaining time.
- Probably won't last another day – the wormhole has at least 25% of its natural lifetime remaining.
- Reaching the end of its natural lifetime – the wormhole has less than 25% of its regular lifetime remaining, and collapse is imminent.

Unless you know what you are doing, it is not advised to enter an unknown wormhole when it is reaching the end of its lifespan, as it could collapse behind you, requiring that you find a new way home.

1.2.4 Wormhole Jump Limit

Each wormhole has a specific limitation to the size and type of ship that can pass through it. In general most wormholes allow battlecruiser and smaller-class ships through, but occasionally some can be found that permit battleships or even smaller capital-class ships through.

The specific limit is not so easily defined, but is rather given as a number of kilograms that can make the trip. A hypothetical 300 million kg limit would easily allow any battleship but a 20 million kg limit may limit entry to battlecruisers and below. Occasionally wormholes are limited such that only frigates and destroyers can go through.

1.2.5 Wormhole Mass Limit

Every wormhole has a fixed amount of starship mass that can pass through it, regardless of the number of jumps. Each jump made through a wormhole will subtract that ship's mass from the remaining total until it runs out and closes. Even if a wormhole has only 1 kilogram remaining any ship that can fit through it's jump limit can pass, closing it behind them.

Armour plates and propulsion modules increase a ship's mass, and so it is highly recommended for those wanting a wormhole to stay open to offline those modules before traversing. A heavy interdictor can fit a Warp Disruption Field Generator which actually reduces the effective mass of the ship while online.

Similar to the wormhole life timer the info pane will display several messages detailing the current state of the mass limit, and all begin with "This wormhole has had its stability ..."

- Not yet significantly disrupted – this means the wormhole is stable with more than 45% of its full mass limit remaining.
- Reduced, but not to a critical degree – the wormhole has less than 45% of its limit left, but it is not in danger of immediately closing.
- Critically reduced – beware any wormhole that reports this as it has less than 5% of its limit left and is primed for immediate collapse.

It is highly encouraged to not enter wormholes which report criticality; the chance to be stuck on the other side is simply too great, and it is unlikely your probe ship will have the resources available to handle the dangers inside without backup.

A well-traveled wormhole is also likely to be home to an existing corporation or group of raiders who have been using that entrance; another reason to leave such spaces alone.

1.2.6 Collapsing a Wormhole

Whether a wormhole collapses due to its natural lifetime expiring or by its mass limit being exhausted, once it disappears several things can happen. If the wormhole was in regular known space, that's the end of it – the wormhole disappears. Inside of wormhole space however, things get more complicated. The specifics of w-space wormholes is explored in a later section.

There are several reasons one may wish to intentionally close a wormhole, but the most common is to change where wormhole space exits to. If a corporation finds a wormhole in their space, or those who live in wormhole space find that an exit leads to notorious systems, they may intentionally drive massive ships through the entrance until it collapses.



Chapter 2

The Features of Wormhole Space

There are nearly 2600 different w-space systems, reachable only through the use of wormholes. Though technically they are arranged in constellations and regions, those terms are rather meaningless due to the ever-shifting nature of the wormholes, regularly changing which systems connect. The true security status of each wormhole system is -1.0, though the enemies within are far more deadly than even the toughest empire rat. Additionally no corporation or alliance is able to claim sovereignty over w-space, it being wholly different from traditional 0.0 play.

While most wormhole space resembles traditional empire systems, there are no NPC agents, stations, places to repair, or safe locations in which to log off. Some systems are truly massive, over 100 AU in diameter, making vigilant d-scans and constant probing a necessity for life here.

Rather than having system names, every w-space pocket has a “J” designation which allows you to look up specifics of that wormhole, including its class, activity statistics, and particular features. While empire space is rated by security level, inside wormholes the systems are ranked by class, from 1 to 6. Class 1 wormhole space provides only a moderate challenge for a single player with mediocre skills, while a Class 6 will require multiple ships, including many T2 or T3, and experienced to survive the encounters therein.

2.1 Local Chat

In empire systems watching Local can be a great way to gain intelligence about the pilots who are entering your space – a benefit that is not afforded to wormhole space. In wormhole systems only people who talk are listed in Local, meaning it is in the best interest of every single wormhole pilot to keep mum in public; talk in private channels, corp chat, or any other method so long as it is never in Local.

The only way to keep eyes on what kind of players are in the system is by using your directional scan, detailing only the name and type of their ship, and then only if they are within range. If you spot a new unknown pilot, scan probes, or anything suspicious, get to a safe place or cloak up and proceed with extreme caution.

2.2 Links to Other Systems

Although every w-space system will contain at least one wormhole, these often connect to other w-space systems, and so on. Higher class wormholes tend to have more wormholes leading to other w-space than lower class systems, which more often connect to regular empire space.

Before entering wormhole space, make sure to bookmark the wormhole, then again once you arrive on the other side. Armed with the knowledge that your escape route could conceivably close at any time, feel free to explore. It's very useful to keep a paper map of your expedition or use a mapping program such as EVE W-Space. Never travel without a probe launcher, and always mash your d-scan to make sure you aren't caught unawares.

2.3 Cosmic Effects

Some wormhole systems have special effects such as increasing small weapons damage or decreasing webifier effectiveness. There are many environments, each with multiple effects which get stronger as the system's class increases. The unique changes these systems provide can completely change the way warfare is conducted within them.

Pulsar: Increased shield capacity, reduced armour resists, reduced capacitor recharge time, increased signature radius, increased NOS and neutralizer drain amount.

Black Hole: Increased missile velocity, missile explosion velocity, ship velocity, and targeting range. Decreased stasis webifier strength and increased inertia.

Cataclysmic Variable: Reduced local armour and shield repair amount, increased capacitor recharge time, and decreased remote capacitor transmission amount. Increased remote armour and shield repair, increased total capacitor.

Magnetar: Increased damage and missile explosion radius. Reduced drone tracking, targeting range, tracking speed, and target painter strength.

Red Giant: Increased heat damage, overload bonus, smart bomb range and damage, regular bomb damage.

Wolf Rayet: Increased armour HP and small weapon damage. Reduced shield resistances and signature radius.

2.4 Wormholes

While random wormholes spawn unpredictably in every w-space system, each system also has at least one "static" wormhole. That doesn't mean the wormhole itself is permanent, but rather that the type of wormhole and the type of system it connects to will not change.

For example, if your system has an O477 static wormhole, there will always be a wormhole somewhere in-system that connects to a C3 w-space system that carries a 2 billion kg mass limit and will exist for 16 hours. When that wormhole collapses, either through use or old age, another O477 wormhole will spawn elsewhere in the system after a few minutes.

What this means is that each system will always have a route back to empire space, albeit perhaps through other w-space systems, even if no other wormholes are open. The only way to reliably find these wormholes is through probing, so make sure you are equipped! Each Class 1, 3, 5, and 6 systems contain one static wormhole, while Class 2 and 4 systems are unique in that they always have 2.

Here is a list of the possible static wormholes for a given class of system:

Class 1: Z060 (Nullsec), J244 (Lowsec), or N110 (Hisec)

Class 2: B274 and Z647 (Hisec and C1), B274 and O447 (Hisec and C3), B274 and Y683 (Hisec and C4), A239 and D382 (Lowsec and C2), E545 and N062 (Nullsec and C5), or E545 and R474 (Nullsec and C6) – any pair as listed

Class 3: D845 (Hisec), U210 (Lowsec), or K346 (Nullsec)

Class 4: P060 (C1), N766 (C2), C247 (C3), X877 (C4), H900 (C5), U574 (C6) – any combination of two different destination classes

Class 5: Y790 (C1), D394 (C2), M267 (C3), E175 (C4), H296 (C5), V753 (C6)

Class 6: Q317 (C1), G024 (C2), L477 (C3), Z457 (C4), V911 (C5), W237 (C6)



Chapter 3

What Lives in W-Space

Unlike the relatively static nature of empire space, the opportunities inside wormholes are ever-changing, bringing new opportunities and new dangers. When a pilot warps to a unique site, listed as an “Anomaly” or “Signature,” an invisible timer begins to count down, after which time the location will de-spawn. New sites appear periodically and must be scanned down individually. As mentioned, being able to probe accurately and quickly is a must for any serious w-space explorer.

3.1 Sleepers

The only NPC occupants of w-space, Sleepers are technically drones but come in all sizes from frigate to battleship, and utilize advanced AI the likes of which put many players to shame. They hit hard, tank massive amount of damage, and are very efficient at shutting down electronic warfare and drones.

Possessing no shields but strong omni-damage resistance armour, they attack with both lasers and missiles, causing all types of damage. They can web, scram, nos, remote repair, and even switch targets depending on your strategy.

Sleepers are not to be taken lightly as, aside from other players, they are the most dangerous aspect of life in a wormhole system.

3.2 Cosmic Anomalies

Anomalies up to 64 AU away can be found just by using your onboard D-scan and provide the most stable source of income for those living inside wormholes. All anomalies should be researched by name before warping so the player knows what they’re in for.

3.2.1 Combat Anomalies

Focused on PVE combat, the only resources to be found in these sites are from the wrecks of sleepers you kill. Typically containing three waves of sleepers, combat anomalies are easier to clear than Data or Relic Sites and are often the main source of ISK for w-space explorers.

3.2.2 Ore Anomalies

Analogous to empire space asteroid belts, pilots can find all types of regular (unbonused) ore, though higher-classed systems have a larger quantity of rare ore such as Arkonor and Mercxit. Even in C1 or C2 systems the asteroids are often very large, well over 5,000 units of ore.

Defended by a single wave of Sleepers, they don’t spawn immediately but rather 15-20 minutes after a ship begins warping to the anomaly. This can be used to boost returns as each site can be triggered and then a combat ship can travel from site to site clearing Sleepers.

3.3 Cosmic Signatures

Signatures must be probed down to access and provide a greater challenge than simple anomalies. The specific signature found should be researched so players know what they'll be warping into.

3.3.1 Gas Signatures

Containing two gas clouds which can be harvested as normal, wormhole space gas is used in Tech 3 production to manufacture Strategic Cruisers and subsystems, making it very valuable to the industrious. As with Ore Anomalies enemy Sleepers do not warp in until 15-20 minutes after initial warp-in.

Taking a quick ship with gas harvesting bonuses, such as the Venture or Prospect, and taking as much gas as possible before the Sleepers arrive is a quick way to make ISK. For pilots with limited skills it may even be more profitable than running C1 and C2 combat sites.

3.3.2 Data Signatures

Possessing multiple containers which can be accessed with a Data Analyzer module, containing SubSystem Datacores, RAMs, or other production/invention components, these sites are heavily defended by up to four waves of Sleepers.

Often much more difficult than combat sites of the same class, they are primarily run for the increased Sleeper loot and salvage rather than the spawned materials.

3.3.3 Relic Signatures

Similar to Data Signatures, Relic sites require the Relic Analyzer to access the containers. Loot from these sites include components from which T3 blueprints can be reverse engineered, which is guarded by four waves of Sleepers.

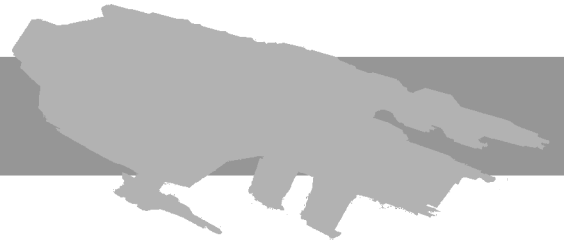
The components will be classed as "wrecked," "malfunctioning," or "intact," which shows that they will produce 1, 2, or 3 run blueprint copies.

3.3.4 Ghost Sites

Very rare even by w-space standards, Ghost Sites are the only locations inside wormholes that you can see faction rat NPCs. If run correctly these sites drop the most valuable loot of any signature or anomaly, and as a bonus do not spawn Sleepers.

3.3.5 Unknown Signatures

This is scanner short-hand for a wormhole entrance as described at length above.



Chapter 4

Risk vs. Reward

Exploring or even living inside a wormhole system provides a great many opportunities to accumulate great wealth, but a potent truism is to consider anything you fly into a wormhole to be already lost. There are many dangers in the unexplored reaches, both from NPC Sleepers to enemy corporations and gank fleets. Whether the stress and bounty of w-space is worthwhile is a question only you can answer for yourself.

4.1 Sleeper Loot and Salvage

Unlike empire space NPCs, killing Sleepers does not provide bounty bonuses or module drops. Instead each wreck contains “Blue Loot” which is sold to NPC buy orders in high-security space – it has no value otherwise. These buy orders can be very valuable, worth between 50,000 and 5,000,000 ISK apiece.

Salvaging Sleeper wrecks is used by players in all areas of New Eden for Tech 3 Production. Battleship wrecks may require a Salvaging skill rating of four or higher. If you find a Melted Nanoribbon after salvaging make sure to get it to market as quickly as possible for a huge return.

4.2 Strategic Cruisers

Tech 3 Strategic Cruisers are the bread and butter of w-space systems. With high resistances, the ability to be customized to a variety of configurations, and the unique advantage of equipping an interdiction nullifier if desired, these ships amazingly still fit in a package the size of a cruiser.

While the benefits of flying a Strategic Cruiser are many, they are ideal targets for ganking fleets and the cost for the hull alone can be over 100 million ISK, with the total reaching well over 400 million ISK just to undock. Losing one of these ships to Sleepers or hostile players is a very expensive lesson not many pilots can afford to learn.

4.3 Ganking

Because there is no Local population list like in the rest of New Eden, w-space pilots are always at great risk of being attacked without warning. The terms of an engagement are almost always set by the aggressing party, and thus it's not a fight but a gank. Players are ganked for fun, profit, or control of a wormhole system itself. Despite the seemingly empty vastness of w-space, a happenstance connecting wormhole can link a system to a highly active, aggressive, motivated wormhole corporation.

Realistically there's little that can be done to prevent getting ganked, other than continually rescanning the area for new arrivals, particularly scanning probes, and flying to a reasonably safe location at the earliest hint of ingress. Rather than avoidance, many pilots advocate a mitigation strategy, flying the barest modules and ships required to tackle the desired site.

While many see wormhole exploration as a PVE endeavor, it is almost impossible to avoid PVP – if you fly a faction ship with deadspace mods for racing through level four missions, keep it docked and as far away from w-space as possible. If you deal with wormhole exploration long enough, you will be ganked, but many find the risk very worth the reward.

4.4 Planetary Interaction

Some of the most material-rich planets in EVE Online are contained within wormhole space, which yields a fantastic and reliable opportunity for those looking to produce goods or fuel their own stations.

The downside of having a planetary installation in w-space is that it's in w-space. Not only could you be forced out of the area by a rival fleet or corporation, making your precious minerals inaccessible, regularly warping to and from the Customs Office gives hostile scouts a regular schedule in which to find and destroy you.

4.5 Tactics for Staying “Safe” in W-Space

4.5.1 Directional Scanning

The D-Scan is often the best source of intelligence regarding what else is in the system with you. When jumping into a w-space system, you should always check your d-scan while holding your gate cloak, after bookmarking the wormhole's location. No matter how recently you were in the same system, no matter if you have a friend already inside, check your d-scan. Circumstances can change very quickly inside wormholes and every second of warning will help.

By changing the range and narrowing the angle of your d-scan, as well as pointing your camera or solar system view at different objects, you may be able to get a better idea of what is lying in wait in a particular direction, particularly at scannable sites like Signatures or Anomalies.

Experienced pilots may use specific overview filters to help narrow down their scan results, developing over time an idea of what items are superfluous and which are important.

4.5.2 Ship Naming Conventions

Some w-space corporations have their own specific ship naming conventions which help all active pilots determine if a d-scan result is a friendly or not. It is important to change your naming convention regularly however, as patient enemies may adopt one they witness and charge into your pilots.

This practice is also recommended if you are flying a fleet into w-space to help distinguish friend from foe at first glance.

4.5.3 Bookmarking

Unless you want to go directly to a cosmic anomaly or celestial object, you will always need a bookmark to go somewhere when you're inside a wormhole. Every time you warp somewhere new you must bookmark it if you want to return without repeating the work you did to find it in the first place.

Make good use of the corporate bookmark system, particularly if your corporation is hoping to live out of a particular w-space pocket, which reduces the number of bookmarks any one pilot has to make. Learn to make safe-spot bookmarks for yourself far away from any celestial object and change or update them regularly.

Always, always, always bookmark both sides of a wormhole to make sure you can find your way back out without probing. Don't be caught in a w-space pocket without a clear idea of how to leave!

4.5.4 System Occupancy and POS Intel

One way to figure out who is active inside a wormhole is to check the ownership of the system's Player-Owned Customs Offices, if available. With the ownership information you can use an updated killboard website to learn their fleet compositions and what systems they are most active in, and even during what time zones.

4.5.5 Cloaking

This should go without saying, but once a person is cloaked there is no way to detect them. Unless you get too close to another object you are safe so long as your cloak module holds out. There are ways locals can attempt to decloak interlopers such as anchoring jet cans around their POSes or setting up drag bubbles, but ideally you can see them on your d-scan.

If you have a cloak, keep it up as much as possible – there is absolutely nothing to gain by being visible, and safety comes with being invisible.

4.5.6 Anomalies vs. Signatures

Although everything has to be scanned down before it can be warped to, not everything needs probes to be found. While in a cosmic signature you have a reasonable expectation that there will be probes in space before any hostiles arrive, though good scanners can have your location zeroed in under fifteen seconds.

Additionally hostiles may have previously visited this wormhole and bookmarked all sites, in which case they would fly from site to site in search of you.

For anomalies hostiles can enter through a wormhole sitting outside of d-scan range, warp to a nearby planet, warp in at range, and position themselves next to you with no way for you to see them coming. The only way to detect this intrusion is to be constantly probing for new signatures and to remember that every ship can find your site when you're in an anomaly.

4.5.7 Site-Running Best Practices

Other players aren't the only danger facing you in wormhole space. Even a small wave of Sleepers can tear apart inexperienced or unprepared pilots. There are general guidelines to follow when running sites, particularly useful as the system class gets larger. These recommendations don't require the pilots to have maximized skills, but it's far better to be overskilled than floating in a pod.

Class 1: A solo battlecruiser can probably handle the Sleepers

Class 2: A small battlecruiser gang is appropriate

Class 3: A medium-sized battlecruiser gang or a small remote-repair battleship gang should be used

Class 4: A medium-sized remote-repair battleship gang at the least

Class 5: Bring a large remote-repair battleship gang

Class 6: You already know what you're doing, so do that

Chapter 5

About the Author

Corpana Ozi is a founding member of “Action Back” and has spent many lifetimes in the service of friends and allies. Currently based out of Lonetrek, she has recently taken an interest in the industrial side of things and can often be found probing out rare cosmic sites, looking for unearthed artifacts to investigate.

Hardworking and filled with a dedication to new capsuleers, with the advent of Alpha clone technology she has decided to start compiling her own experience with the many words of those who have come before, compressed into these guides with which she hopes new pilots will be better prepared for the many profitable and hostile endeavors afforded to the explorers of New Eden.

She’s very likely to take any donations sent her way and spend them on hilariously bad comedy suicide fleet ops, cases upon cases of Quafe Zero, or original blueprints of her favorite ships. Feel free to drop her a line and tell her what you think of this guide.

Fly safe.

