

WISDOM FROM THE WASTELANDS

Issue #41: Alternate Forms of Radiation



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As one of technology’s four horsemen, radiation is a important part of *Mutant Future*: hazard, theme, bringer of mutation, waster of civilizations. The game mechanics assume a single kind of radiation, which reacts in a single way with the human, animal, or mutant plant body. But in real life, this isn’t the case. Radiation comes in different forms, with different intensities and different ways of being used or causing harm. This issue considers these different types of energy, and introduces many possibilities brought by a few hundred years of scientific progress, industrial ingenuity, and alien contact.

Many of the energies described below are by-products created or released by the Ancients’ weapons of mass destruction. Mutant Lords are encouraged to determine which bombs and missiles described in the *Mutant Future* core rules produce the varying types of radiation — or even come up with new weapons of their own. For inspiration, consider some of the radioactive weapons and ammunition detailed in *Wisdom from the Wastelands* issues #3 and #9.

In real life, nuclear explosions create thermal and Electromagnetic radiation, Alpha and Beta particles, Gamma rays, and neutrons. To keep the mechanics under control, this article assumes a particular field contains one predominant type of radiation. Should MLs want to mix different types in a location, they are encouraged to do so.

The following rules cover radiation in several new ways, and they are by no means hard science; some people will disagree with the methods and uses presented. The rules are purely optional and were created to add more variety and flavor to the game. To help the beleaguered ML, a summary table of damage dice and saving throw modifiers is included at the end of the article.



ABYSSIUM RADIATION

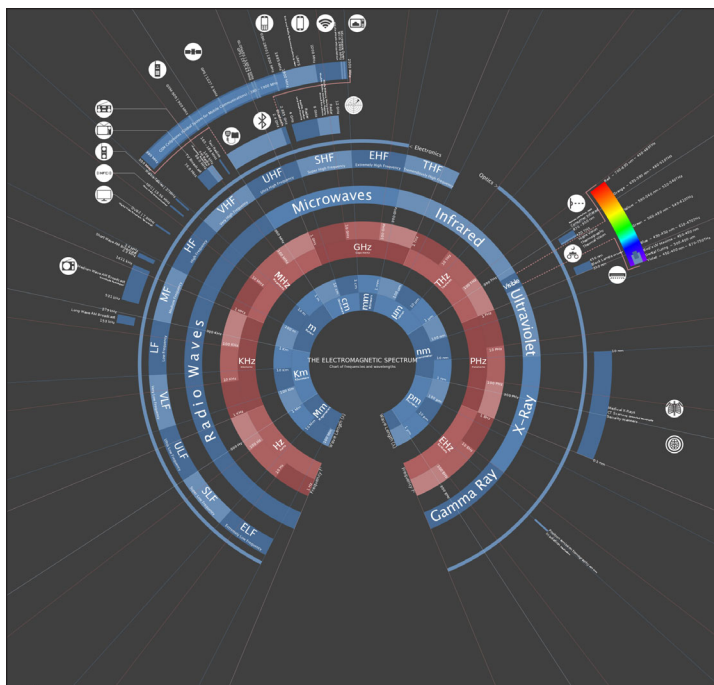
Because of circumstantial evidence, many wasteland scholars believe this radiation comes from an alternate plane of existence, one all but devoid of heat. Abyssium fields are rare in the wastelands, and the scant surviving records indicate most weapon systems generating this energy were typically deployed off-world. But more importantly, unlike other energies this radiation creates a soul-sucking cold that drains mind and body.

Although exposure causes genetic damage and physical harm, half of Abyssium damage is cold-based, so creatures with some immunity to cold can resist it. As an example, Min failed her save entering a class 5 Abyssium field, and the damage total on 5d6 was 16. Because half the damage (8

INSIDE THIS ISSUE

Alpha, Beta, Cobathorium, Electromagnetic, Epsilon	2
Eitirium, Gamma, Mithrilium, Neutron, Omega	3
Omnesium, Phostlite, Quantonium, Radium, Solonium, Thaesium	4
Torasium, X-Ray	5

This publication is dedicated to providing useful information, game content, and ideas to players of modern, science fiction, and post-apocalyptic table-top and role-playing games in general and to fans of Goblinoid Games’ *Mutant Future* RPG in particular. The material contained herein are compatible with it and any others that use the “Basic” system introduced in the most popular role-playing games of the early 1970s and are easily adaptable to many other games (especially successor systems, to include those covered by the Open Game License).



points) is cold-based and Min has a 50% cold resistance, she takes 12 points. Had she passed the save, her damage would have been only 6 points.

Abyssium radiation also saps the will to live, filling victims with despair so deep it can last for days following exposure. Victims must save versus death or lose Willpower, with the saving throw and statistic damage dictated by field strength. For every two radiation classes, there is a -1 penalty; for example, classes 1 and 2 have a -1 penalty, while classes 9 and 10 have a -5. To determine the stat loss for a failed save, roll a number of d2 equal to the radiation class (e.g., class 5 means 5d2 Willpower damage). The victim regains lost Willpower at her natural healing rate per day.

ALPHA RADIATION

As some radioactive substances decay they emit alpha particles, which are identical to helium nuclei. This form of radiation is generally harmless, as it can travel only a few centimeters and is easily absorbed by tissue paper or human skin. Consequently, it only does 1d3 damage per class, instead of 1d6. Also, victims encountering alpha radiation get a +4 bonus to their saving throws, and there is no chance they will mutate after multiple exposures.

However, if introduced directly into a target's body (through breathing, ingestion, open wounds, or physical attacks), alpha radiation can be very destructive. Although radioactive material is most commonly added to bullets, it can be mixed with liquids or powders and applied to melee weapons. Unless the wielder has open wounds, this does him no harm, but it can add extra damage to a successful attack. The material can also be used as a crude poison by putting it in a victim's food or drink. Exact mechanics for this are left up to the ML, but might include having the poisoned character make radiation saves at certain intervals.

BETA RADIATION

The most common kind of radiation encountered in the ruins, these light, short-ranged particles are electrons ejected from contaminated material. As the default radiation, there are no modifiers to either saving throws or damage.

COBALT THORIUM RADIATION

While designing weapons of mass destruction, Ancient engineers came to realize the combination of cobalt and thorium produced a more deadly fallout than other nuclear devices. Less scrupulous militaries and terrorist organizations used this discovery to create dirty bombs and wage "scorched earth" campaigns.

Cobalthorium emissions are more dangerous to living beings than even Gamma radiation and more difficult to resist; exposure causes more intense burns and greater genetic damage. When this radiation causes a mutation, the mutant must add 25% to the chance of gaining a drawback. This might be done by adding 25 to the percentile result when rolling for a random mutation, or adapting a house rule from your own game.

ELECTROMAGNETIC RADIATION

Generally, robots units were hardened against radiation effects. However, in the constant escalation of weapon versus armor, some Ancient armies developed "persistent electromagnetic pulse" (EMP) systems to overcome the built-in resistances of warbots and other military robots. These explosives were massively destructive in their own right, but the blasts also dispersed radioactive material over wide areas. This "dirty shrapnel" generates Electromagnetic fields long after detonation.

The radiation does not harm organic life (including replicants), but any robotic unit, basic android, or synthetic entering the area of effect must save versus radiation. Those who succeed take only half damage. Fortunately for these characters, they cannot suffer radiation poisoning.

Electronic items in the EM field must also save versus radiation (using the wielder's saving throw). This roll is modified by the field strength, with the penalty equal to one-half the radiation class (round down, minimum of -1). Items that fail take condition damage equal to the save modifier. For example, a class 5 EM field gives a -2 penalty and would do two levels of condition damage.

Due to radiation-induced feedback, characters with cybernetic implants need to save versus radiation when exposed to EM radiation. Those who succeed take no damage, while those who fail take half.

Robotic nanites in an EM field, whether in a host character or as a free swarm, must save versus energy or be completely destroyed. They have a save penalty equal to the field strength; for example, the earlier class 5 EM field would inflict a -5 modifier.

EPSILON RADIATION

Even though it is considered 'middle ground' radiation, Epsilon is still deadly. Instead of using d6s for damage dice,

this energy uses d8s, and all saving throws have a -2 penalty. If you use the Radiation Poisoning mechanics from *WfiW* issue #38, even mild doses of this radiation increase the mutation chance by 15% per stage.

EITIRIUM RADIATION

Although a component common in “terror weapons” before the final wars, releasing this radiation often drew severe retaliation. Nearly as deadly as Omega radiation, Eitirium was feared more for the horrific cellular and genetic damage it caused; most victims who survived the initial blast quickly developed cancer and other long-term health problems.

Because of its side effects, Eitirium exposure requires a slightly different saving throw process. When first entering an Eitirium field, every victim must save versus poison. Those who fail immediately develop cancer (see *WfiW* issue #38 for details).

In addition, a victim must also save versus radiation. Those who pass take half damage; those who fail take full damage and must make a save versus death. This last saving throw is modified by -1 for every two classes of the radiation (e.g., class 1 and 2 would be a -1 to the save, whereas class 10 would be a -5). Failure here causes permanent CON damage. The ML rolls a number of d2 equal to the radiation class; this total is subtracted from the victim's CON score. For every CON point lost, the victim takes 3 points of damage and her maximum hit point total is reduced by 3 hit points. If her CON or hit points drop below zero, the victim dies.

As an example, a healthy Min with a 14 CON and 52 hit points walks into a class 3 Eitirium field. She makes her save versus poison, but fails her radiation save. Min takes 7 points of damage, leaving her with 45 hp. Then she fails her save versus death. The ML rolls 4 on 3d2, so Min's CON drops from 14 to 10. She takes 12 points of damage from the loss, leaving her with 33 hp. Her hit point total is also reduced by 12 points, making her maximum now 40 hp. She didn't die, but she is not happy.

GAMMA RADIATION

An intense, “hard” type of radiation, Gamma rays cause more tissue damage than Alpha or Beta, and are more difficult to resist. The damage dice are d10 and saving throws are made with a -4 penalty. Also, if using the Radiation Sickness rules, the chance of mutating increases by 20% per stage (see *WfiW* issue #38 for details).

MITHRILLUM RADIATION

The massive release of nuclear and anti-matter weapons during the final wars, mixed with certain exotic compounds and off-world materials, created a miasma that altered normal radiation effects. Years later, wastelanders discovered some of these energy-laden areas reacted with metals and alloys in strange ways: although extremely toxic, this new radiation could harden metal and make it more durable. Some willingly risk this deadly energy in order to improve their own equipment, or to make their merchandise more valuable.

When exposed to mithrillium radiation for more than



one month, metal armor gets a 2-point AC bonus; metal melee weapons get a +1 bonus to damage. Robotic units undergoing the same treatment have their hit points and damage resistance increased by 50%. However, if the item or robot leaves the exposure zone before a month passes, the metal does not fully cure and gains no bonus. The exposure process only works once.

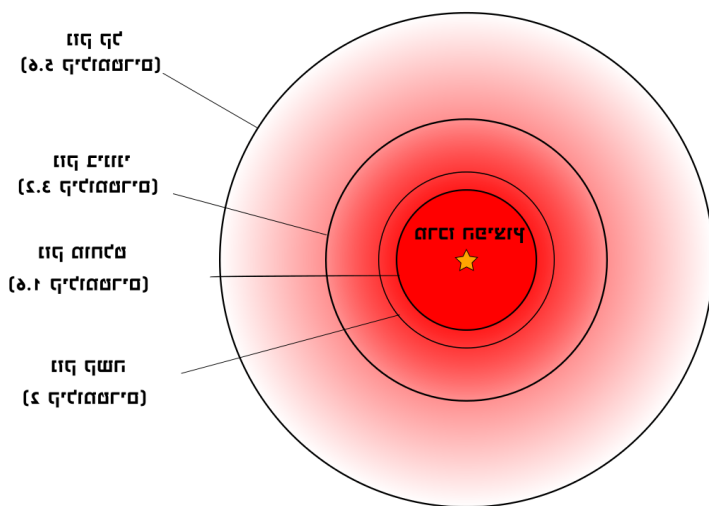
NEUTRON RADIATION

Early nuclear warheads were powerful, but had a very significant drawback: target areas were blasted flat, toxic, and uninhabitable for decades or centuries after detonation. To lessen this disadvantage, the Ancients designed neutron weapons, which eliminated organic life within the effect radius, but did little damage to buildings, vehicles, etc.

Unlike other types, neutron radiation — of any class — immediately kills anyone in the active zone who fails to save versus radiation. Even those who succeed take the full number of damage dice listed — and use d10s instead of d6s. Despite its lethality, exposure to neutron radiation does not have an increased chance of mutation.

OMEGA RADIATION

One of the deadliest radiation hazards encountered, Omega radiation causes devastating cellular damage, and is, by far, the hardest for a victim to resist (-6 to the saving throw). It's



also the most persistent: many impact areas still register near-maximum contamination levels, even hundreds of years after other radioactive areas have decayed into background levels.

OMNESIUM RADIATION

Omnesium is relatively weak, but it has a very strange and powerful effect on the nervous system. In addition to the usual radiation save, a victim must save versus death; failure means his INT and WIL are permanently changed. This latter saving throw is modified by -1 for every two classes of radiation (e.g., class 1 and 2 give a -1 to the save, whereas class 10 has a -5 penalty).

To determine the change, the ML rolls a number of d2 equal to the radiation class and tallies the result. Then he rolls 1d6. On 1-3, the victim loses a number of statistic points equal to the rolled result. On 4-6, he gains this amount. The victim decides how to allocate the gain or loss, splitting the number between INT and WIL. As an example, Turok falls into a class 5 Omnesium field. He makes his radiation save, but fails to save versus death. The ML rolls 6 on 5d2, and a 4 on the 1d6: Turok gains 6 statistic points split however he wants between his INT and WIL.

Should a victim mutate when exposed to an Omnesium field, he gains a mental mutation 75% of the time.

PHOSTLITE RADIATION

Although they found it was toxic to faunal life, Ancient agricultural engineers used Phostlite radiation to help plants grow and stay healthy, especially in the off-world colonies. Phostlite exposure heals plants by the amount of damage they would normally take, and they get a bonus to *all* saving throws for the next 1d3 days. The bonus is equal to half the radiation class, rounded down (minimum of +1). Other life forms suffer normal radiation damage and the usual chance for mutating.

QUANTONIUM RADIATION

Great advances in the Ancients' technology brought changes in their understanding of the universe. They came to believe the Quantum Sea (the base plane of existence) was a source

of unlimited power, if it could be accessed. With time, their scientists created weapons able to crack open portals, releasing bursts of the dimension's strange and deadly radiation.

Despite its relatively strong intensity, Quantonium does not mutate those exposed to it. Instead, any energy sources brought within the radiation field must save versus death or be completely drained. The power might be harmlessly released into the surroundings, or maybe drawn back to the primordial Quantum Sea. Robotic units encountering Quantonium radiation must also save versus death; if they fail, their internal power core is drained. This effectively kills them, unless the power source can be changed or replaced. The machines are not damaged; rather, the state might be considered a type of "suspended animation" for robots. Robotic nanites failing their save are destroyed.

RADIUM RADIATION

While researching Omega radiation, Ancient scientists discovered another energy form that was just as intense, but didn't cause crippling genetic damage. Instead, those exposed to Radium energy frequently developed strange and wondrous powers. If a Radium field causes a mutation, the result is always beneficial. If using the Radiation Sickness rules described in *WfiW* issue #38, the chance of mutating increases by 10% per stage, and any mutation gained is always beneficial. In addition, a Radium field affects robotic units as though it were Electromagnetic radiation.

SOLONIUM RADIATION

In a twist of Ancient dark humor, this energy was considered a cleaner, friendlier improvement to Neutron radiation: although it still destroys most organic life, survivors of Solonium exposure don't suffer genetic damage. Anyone who enters a Solonium field — of any class — and fails their save versus radiation dies instantly. Those who save still take the full damage listed, using d10s instead of d6s. This radiation never causes mutations.

THAESERIUM RADIATION

When Ancient scientists detected Thaesium in Jupiter's rings, they believed it had come from a comet or other extra-solar body pulverized within the planet's gravity well. They also discovered the radioactive compound was highly mutagenic. Similar comet-delivered materials found on Earth may have played a major role in life evolving.

As intense as Alpha radiation, Thaesium is primarily harmful when introduced into a victim's body by ingestion, inhalation, or through a wound, using the same damage/poisoning mechanics found in the Alpha entry. If your game uses the original *MF* radiation rules, the exposed character gains a mutation after only four failed saving throws. If you use the Radiation Poisoning mechanics from *WfiW* issue #38, the compound increases the mutation chance at each stage by 25% (e.g., Mild stage becomes 26%, Minor becomes 30%). Any mutation gained by Thaesium exposure is always beneficial.

TORASIUM RADIATION

Despite being generally less damaging than other types of energy, this radiation is particularly toxic to neurons. In addition to the usual radiation save, someone entering a Torasium field must save versus death or suffer nerve damage, which causes reductions to DEX, initiative, and speed. The save is modified by -1 for every two radiation classes (e.g., class 1 and 2 give a -1 to the save, while class 10 has a -5 penalty).

For those who fail, the ML rolls a number of d2 equal to half the radiation class (rounding down, minimum of 1). As an example, if a victim were exposed to class 6 radiation, the ML would roll 3d2. This tally indicates both how many points the victim permanently loses from her DEX and the penalty she suffers on future initiative rolls. The result is also the percentage permanently lost from the mutant's speed; for example, a result of 4 indicates the mutant's total movement rate in feet is reduced by 4%.

X-RAY RADIATION

One of the earliest known types, X-ray radiation was so common in the Ancients' world that few even thought about it. For hundreds of years, doctors used very low doses to diagnose disease and injury, especially bone fractures. As imaging technology advanced beyond X-rays, they were put to other uses and remained part of medicine.

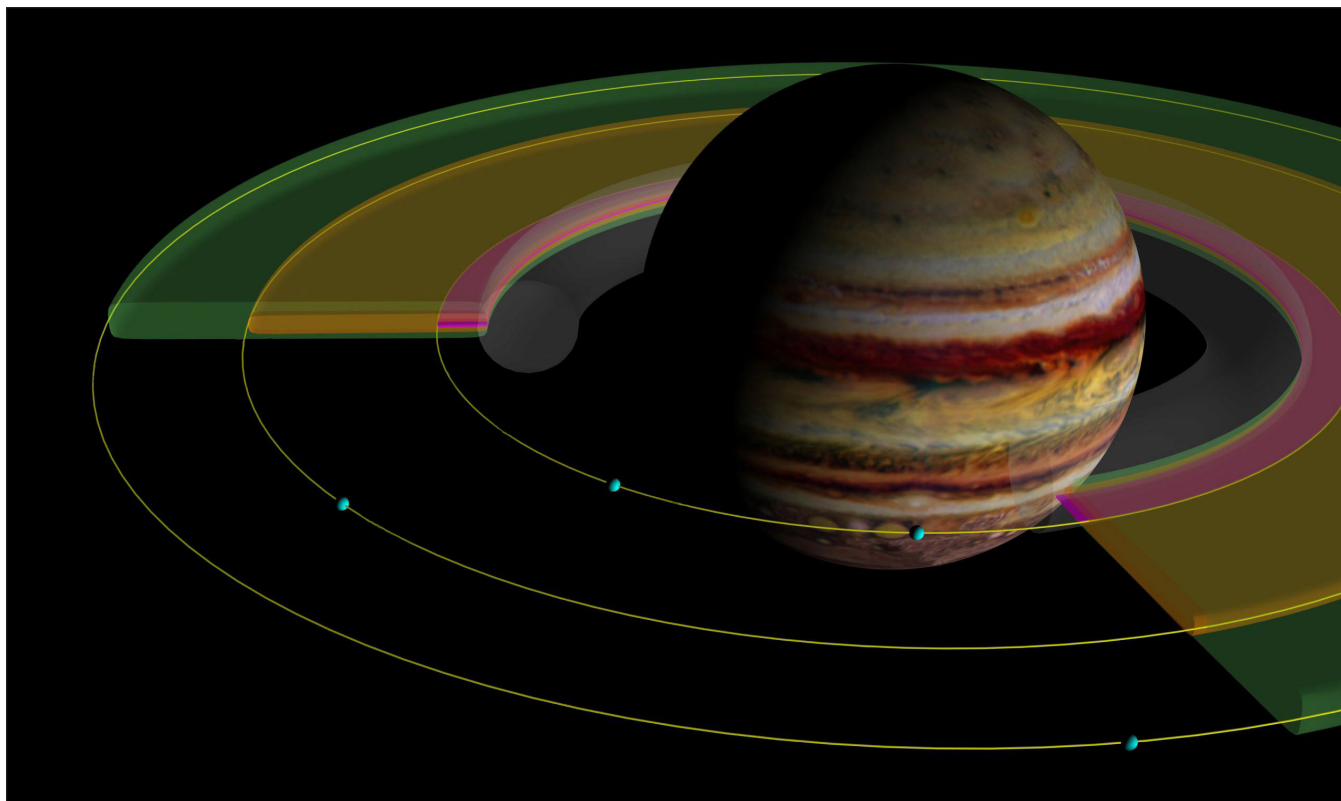
Early researchers also discovered X-rays could harm rather than heal, and wreak havoc on the body. X-rays are nearly identical to Gamma rays; however, this radiation has a major difference — beyond the initial damage, there are almost no secondary effects. If your games uses the *Mutant Future* radiation rules, the mutant must fail 15 X-ray radiation

Alternate Radiation Summary Table

<i>Radiation</i>	<i>Damage Dice</i>	<i>Saving Throw Modifier</i>
Abyssium	d6	N/A
Alpha	d3	+4
Beta	d6	N/A
Cobathorium	d10	-4
Electromagnetic	d6	N/A
Epsilon	d8	-2
Eitirium	d10	N/A
Gamma	d10	-4
Mithrilium	d6	N/A
Neutron	Death/d10	N/A
Omega	d12	-6
Omnesium	d4	+2
Phostlite	d6	N/A
Quantonium	d10	-4
Radium	d12	-6
Solonium	Death/d10	N/A
Thaeserium	d3	+4
Torasium	d6	-2
X-Ray	d10	N/A

checks to mutate. If you use mechanics presented in *WftW* issue #38, gaining a mutation takes the combined exposure from 150 total classes of this radiation. For example, a victim must be exposed 15 times to class 10 X-ray radiation before mutating.

For easy reference, the table above summarizes damage dice and save modifiers for the new radiation types.



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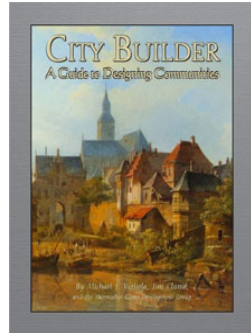
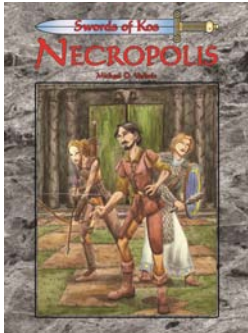
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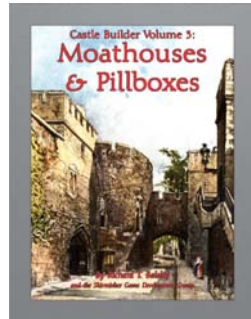
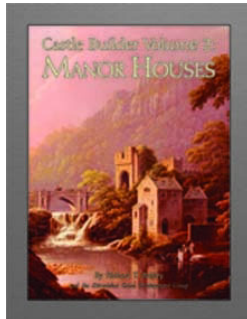
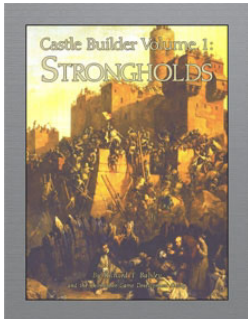
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