

A

absorb	absorbować, pochłaniać	The sponge can absorb water quickly due to its porous nature.
acceleration	przyspieszenie	The car's acceleration was incredible as it reached top speed in seconds.
adiabatic	adiabatyczny	The adiabatic process occurred without the exchange of heat with the surroundings.
air resistance	opór powietrza	Air resistance is a force that opposes the motion of objects as they travel through the air.
amperage	natężenie prądu	The amperage flowing through the circuit was carefully monitored by the engineer.
angular momentum	moment pędu	Conservation of angular momentum explains the rotation of celestial bodies.
annihilation	anihilacja	Matter and antimatter particles collide resulting in mutual annihilation.
antiparticle	antycząstka	Antiparticle has similar mass but opposite charge compared to its particle counterpart.
atomic spectral line	widmo liniowe	The atomic spectral line helps identify elements based on their unique wavelengths.
axiom	aksjomat	Scientists rely on axioms as the foundation of mathematical reasoning.
azimuthal quantum number	poboczna liczba kwantowa	The azimuthal quantum number determines the shape of an electron's orbital.
barometer	barometr	The barometer indicated a drop in atmospheric pressure before the storm arrived.
beam of light	wiązka światła	A beam of light shining through a prism disperses into a spectrum of colours.

B

bending	zginanie	Bending refers to the deformation of an object due to applied external forces.
binding energy	energia wiązania	The binding energy holds the nucleus together despite the repulsive forces.
boson	bozon	Bosons are a type of particle associated with force-carrying and interactions in quantum physics.
Bragg curve	krzywa Bragga	The Bragg curve demonstrates the energy deposition of ionizing radiation.

C

capture	wychwyt	The black hole can capture nearby matter due to its intense gravitational pull.
Carnot cycle	cykl Carnota	The efficiency of gas turbines is often compared to the theoretical maximum in a Carnot cycle.
cell membrane	błona komórkowa	The cell membrane selectively allows substances to enter or exit the cell.
chain reaction	reakcja łańcuchowa	Chain reactions refer to a sequence of events where each reaction triggers the next. In nuclear reactors, a chain reaction releases large amounts of energy.

charge	ładunek (elektryczny)
	By definition, charge is the fundamental property of matter responsible for electric forces. Opposite charges attract while like charges repel each other.
chemical bond	wiązanie chemiczne
	Chemical bond formation involves electron sharing or transfer between atoms.
circuit	obwód elektryczny
	The circuit must be complete for electricity to flow and power devices.
collider	zderzacz
	The collider was shut down for maintenance after a successful experiment.
collision	zderzenie
	The collision of particles in the accelerator produced interesting results.
combustion	spalanie
	Combustion is a chemical reaction between a fuel and oxygen that produces heat and light.
Compton effect	efekt Comptona
	The Compton effect provides evidence for the wave-particle duality of light.
concave	wklęsły
	A concave lens causes light rays to diverge upon passing through it.
condenser	kondensator
	The condenser is crucial in the process of converting gas to liquid.
continuous spectrum	widmo ciągłe
	The continuous spectrum displayed a wide range of colours.
convection	konwekcja
	Convection plays a key role in heat transfer within fluids.
convex	wypukły
	A convex mirror reflects light outwards giving a wider field of view.
coordinate system	układ współrzędnych
	Understanding the coordinate system is essential for plotting accurate data.
critical mass	masa krytyczna
	The critical mass required for the reaction was carefully calculated.
cross product	iloczyn wektorowy
	Calculating the cross product of two vectors can be challenging.
cross section	przekrój czynny
	The cross section of the sample showed intricate details.
crystal structure	sieć krystaliczna
	The crystal structure of metals can significantly affect their mechanical properties.
current	prąd
	The current passing through the wire produced a magnetic field.
cyclotron	cyklotron
	A cyclotron is a type of particle accelerator commonly used in nuclear physics research.
D	
damping	tłumienie
	The damping effect reduced the vibrations of the instrument.
decay constant	stała rozpadu
	The decay constant determines the rate at which a substance decays.
degrees of freedom	stopnie swobody
	In physics, degrees of freedom represent the parameters of a system.
density	gęstość
	The density of the material affects its buoyancy in water.

derivative	pochodna	The derivative of the function provides information about its slope.
determinant	wyznacznik	The determinant of a matrix can determine if it is invertible.
diffraction	dyfrakcja	Diffraction patterns helped researchers understand the nature of light.
diffusion	dyfuzja	Diffusion is the process by which particles spread evenly in a medium.
dimension	wymiar	The dimension of space-time is a fundamental concept in relativity.
dipole	dipol	The dipole moment of the molecule explained its polarity.
dipole momentum	moment dipolowy	The dipole moment of a molecule can be calculated based on the charges and bond lengths.
dispersion	dyspersja	Dispersion of light results in the separation of colours in a spectrum.
displacement	przemieszczenie	Displacement is the change in position or location of an object in a particular direction.
dose	dawka	The dose of radiation received should always be carefully monitored in medical imaging.
dosimeter badge	plakietka dozymetryczna	A dosimeter badge is a device used to monitor and record an individual's radiation exposure.
E		
eigenvalue	wartość własna	The eigenvalue of the matrix helps solve quantum mechanical problems efficiently.
electric charge	ładunek elektryczny	Electric charge is a fundamental property of particles in the universe.
electromagnetic field	pole elektromagnetyczne	The electromagnetic field is a manifestation of electric and magnetic forces.
electromagnetic wave	fala elektromagnetyczna	Electromagnetic waves are essential for communication through radio signals.
electron microscope	mikroskop elektronowy	Electron microscopes allow scientists to observe nano-sized particles.
electron shell	powłoka elektronowa	Electrons arrange themselves in an electron shell around the nucleus of an atom.
emission	emisja	The emission spectrum provides valuable information about the composition of stars.
emit	emitować	Atoms emit light when their electrons jump to lower energy levels.
entanglement	splątanie	Quantum entanglement demonstrates the interconnectedness of particles over any distance.
entropy	entropia	Entropy is a measure of disorder or randomness in a system.
equilibrium	równowaga	An object in equilibrium has balanced forces acting on it in all directions.
excitation	wzbudzenie	Unstable equilibrium occurs when small disturbances lead to a significant change in system behaviour.
		Excitation of molecules can lead to the emission of light in fluorescence microscopy.

extinction wygaszenie
The extinction of species is a concerning consequence of environmental changes.

F

fission rozszczepienie
Nuclear fission is a process that releases large amounts of energy in nuclear reactors.

fluorescence fluorescencja
Fluorescence microscopy uses fluorescent markers to visualize biological structures.

force siła
The force between two objects is proportional to their masses and distances.

force of attraction siły przyciągania
The force of attraction holds together particles within the atomic nucleus.

frame of reference układ odniesienia
In physics, a frame of reference is necessary to describe motion accurately.

frequency częstotliwość
Light has a specific frequency that determines its colour and properties.

friction tarcie
Friction opposes motion and converts kinetic energy into heat.

fulcrum podpora, punkt podparcia
The fulcrum is the point on which a lever pivots when applying force.

fusion synteza
Nuclear fusion powers the sun by combining light atomic nuclei to form heavier ones.

G

gamma rays promienie gamma
Scientists use gamma rays to study the composition of distant galaxies.

gravity ciężar
Our understanding of gravity has evolved greatly since Newton's time.

grip przyczepność
A secure grip is important when handling delicate equipment in a laboratory.

H

half-life czas połowicznego rozkładu
The concept of half-life is crucial in the field of nuclear chemistry.

harmonic oscillator oscylator harmoniczny
The harmonic oscillator is used to model many physical systems.

heat ciepło
Heat is transferred from one object to another through conduction.

I

inclined plane równia pochyła
An inclined plane reduces the force required to lift a heavy object.

index of refraction współczynnik załamania
The index of refraction determines how light bends in different materials.

inductor cewka indukcyjna
An inductor is a passive electronic component that stores energy in the form of a magnetic field.

inertia bezwładność
Inertia is the tendency of an object to resist changes in motion.

infrared radiation	podczerwień	Infrared radiation is often used for remote sensing applications.
insulator	izolator	An insulator does not allow electrons to flow freely through it.
integral	całka	Calculating the integral of a function is essential in physics problems.
interference	interferencja	Interference patterns can be seen when waves interact with each other.
interlock	łączyć, zazębiać	The interlock mechanism prevents the machine from operating when the safety door is open.
ion	jon	An ion is an atom that has gained or lost one or more electrons.
ionization	jonizacja	Ionization occurs when a neutral atom gains or loses electrons.
isochoric	izochoryczny	Isochoric processes involve constant volume in thermodynamic systems.
isolate	izolować	It is important to isolate variables when conducting an experiment.
isotope	izotop	Isotopes of an element have the same number of protons but different neutrons.

J

Joule's law	prawo Joule'a	Joule's law relates to the conversion of electrical energy into heat.
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L

laws of motion	zasady dynamiki	Newton's laws of motion describe the relationship between the motion of an object and the forces acting on it.
lens	soczewka (w mikroskopie)	A lens can refract light to form clear images.
light dispersion	rozproszenie światła	Light dispersion causes a rainbow to appear when sunlight passes through water droplets.
linearization	linearyzacja	The linearization of the equation allows us to approximate the solution in a simplified form.
luminescence	luminescencja	Luminescence is the emission of light that occurs without the typical heat associated with incandescence.

M

magnetic quantum number	magnetyczna liczba kwantowa	The magnetic quantum number specifies the orientation of an electron's magnetic field.
matter	materia	In physics, matter is anything that has mass and takes up space.
mean lifetime	średni czas życia	The mean lifetime of a particle can be calculated by averaging the lifetimes of multiple samples.
measurement	pomiar	Precise measurement is crucial in experimental physics to obtain accurate results.
metric	metryka	

The metric system is widely used in scientific research due to its consistency and ease of conversion.

Milky Way Galaxy droga mleczna

The Milky Way Galaxy is our own galaxy in which Earth resides.

molar mass masa molowa

The molar mass of a substance is the mass of Avogadro's number of atoms or molecules of the substance.

momentum pęd

Momentum is a vector quantity that represents an object's motion and inertia.

motion ruch

Newton's laws describe the relationship between force, motion, and acceleration.

MRI rezonans magnetyczny

MRI stands for Magnetic Resonance Imaging, a medical imaging technique that uses magnetic fields.

N

neutrino neutrino

Neutrinos are subatomic particles that are nearly massless and have no electric charge.

nuclear energy energia jądrowa

Nuclear energy is sourced from atomic nuclei through processes such as fission or fusion.

nuclear reactor reaktor jądrowy/stos atomowy

A nuclear reactor is a device used to initiate and control nuclear reactions for power generation.

nucleus jądro (atomowe)

The nucleus of an atom contains protons and neutrons, contributing to the atom's mass.

O

observer obserwator

An observer in physics is a frame of reference used to measure the properties of a system.

orthogonal matrix macierz ortogonalna

An orthogonal matrix is a square matrix with real or complex entries that satisfies certain geometric conditions.

oscillatory period okres drgań

The oscillatory period of a pendulum depends on factors such as its length and gravity.

P

parity parzystość

Parity in physics refers to the symmetry properties of physical systems under spatial inversion.

partial derivative pochodna cząstkowa

Partial derivatives are used to calculate how a function changes with respect to one variable while holding others constant.

particle cząstka

A particle in physics is a small localized object with quantum properties such as mass and charge.

pendulum wahadło

The pendulum swung back and forth with precision in the physics lab.

photomultiplier fotopowielacz

The photomultiplier was used to detect low levels of radiation in the experiment.

photon foton

A photon is the smallest discrete amount of electromagnetic radiation.

photosensor fotokomórka

The photosensor responded quickly to changes in light intensity during the experiment.

Planck's constant stała Plancka

Planck's constant plays a crucial role in quantum mechanics calculations.

potential energy	energia potencjalna
	The potential energy stored in the system was converted into kinetic energy.
power	moc
	The power generated by the nuclear reactor was sufficient for the entire town.
precipitation	opady
	Precipitation occurs when water droplets combine to form larger droplets and fall from clouds.
pressure	ciśnienie
	The pressure inside the chamber increased steadily during the process.
principal quantum number (n)	główna liczba kwantowa
	The principal quantum number (n) determines the energy level of an electron.
probability	prawdopodobieństwo
	The probability of finding the electron in a specific location is determined by quantum mechanics.
projectile motion	rzut ukośny
	Projectile motion is the curved path an object takes when thrown near the surface of the Earth.
pulley	koło pasowe, krążek linowy
	A pulley is a simple machine composed of a wheel on an axle used to change the direction of a force.
Q	
quantum mechanics	mechanika kwantowa
	Quantum mechanics provides a mathematical framework for understanding atomic and subatomic particles.
quantum numbers	liczby kwantowe
	The quantum numbers specify the unique energy state of an electron in an atom.
quarks	kwarki
	Quarks are fundamental particles that make up protons and neutrons.
R	
radiation	promieniowanie
	Radiation emitted from the source was carefully measured using a Geiger counter.
radioactive decay	rozpad promieniotwórczy
	Radioactive decay occurs when an unstable atomic nucleus loses energy by emitting radiation.
radionuclide	radionuklid
	The radionuclide used in medical imaging had a half-life of 6 hours.
radius	promień
	The radius of the nucleus is much smaller compared to the overall size of an atom.
reflection	odbicie
	Reflection of light off the mirror followed the law of reflection accurately.
refraction	załamanie
	Refraction of light through the prism caused the beam to split into different colours.
relativity theory	teoria względności
	The theory of relativity revolutionized our understanding of time, space, and gravity.
resistance	opór
	The resistance of a material is proportional to its length and inversely proportional to its cross-sectional area.
resonance	rezonans
	The resonance of the subatomic particle was carefully studied in the physics laboratory.
rigid body	bryła sztywna
	The rigid body of the car maintained its shape even after the collision.

S

scalar product	iloczyn skalarny	To calculate the vector product, you first need to determine the scalar product.
scattering	rozproszenie	The scattering of light through the prism created a beautiful spectrum.
scintillation detector	scyntylator	The scintillation detector showed high sensitivity in detecting radioactive materials.
semiconductor	półprzewodnik	A semiconductor material is often used in electronic devices for its unique properties.
shell	powłoka elektronowa	The electron configuration revealed the presence of electrons in the outer shell.
sievert	siwert	Sieverts are units used to measure equivalent dose radiation effects on living tissue.
singularity	osobliwość	The singularity at the centre of the black hole baffled scientists for years.
solid	ciało stałe	The solid structure of the crystal lattice made it difficult to deform.
specific heat	ciepło właściwe	The specific heat capacity of the metal alloy was calculated using precise measurements.
spectrophotometer	spektrofotometr	The spectrophotometer was used to analyse the light absorption of the chemical compound.
speculum	z zwierciadło	The doctor used a speculum to examine the patient's nasal passages.
sphere	sfera, kula	The mathematical equation accurately described the volume of a sphere.
spin quantum number	spinowa liczba kwantowa	The spin quantum number differentiated between the two quantum states of the electron.
state (i.e quantum)	stan (np. kwantowy)	The state of the particles was determined by their distinct quantum properties.
strong interactions	oddziaływania silne	Strong interactions between the particles were observed during the nuclear reaction.
superposition	superpozycja	The concept of superposition in quantum mechanics explained the wave-particle duality.

T

tension	napięcie	The tension in the cable increased as the weight was added to the pulley system.
tension force	siła naciągu	Tension force is a pulling force transmitted through a system such as a rope or cable.
time dilation	dylatacja czasu	Einstein's theory of relativity included the concept of time dilation in space travel.
torque	moment siły	The torque applied to the lever caused it to rotate around its axis.
transmission	transmisja	The transmission of data through fibre optic cables is faster than traditional copper wires.

U, V, W, X

uncertainty principle	zasada nieoznaczoności
In quantum physics, the uncertainty principle states that the position and momentum of a particle cannot be measured simultaneously.	
unstable	niestabilny
Unstable isotopes undergo radioactive decay to achieve a more stable configuration.	
vector	wektor
In physics, a vector is a quantity that has both magnitude and direction.	
velocity	prędkość
The velocity of an object can be calculated by dividing the displacement by the time taken.	
vibration	drżanie
The vibration of the strings in a musical instrument produces sound waves.	
voltage	napięcie
Voltage is the difference in electric potential energy between two points in an electric circuit. The voltage across a circuit can be controlled by adjusting the resistance.	
wave	fala
A wave propagates energy through the movement of particles in a medium.	
wave function	funkcja falowa
The wave function describes the probability amplitude of finding a particle in a particular state.	
wave-particle duality	dualizm korpuskularno-falowy
The wave-particle duality of light means that it exhibits characteristics of both waves and particles.	
weightlessness	stan nieważkości
Astronauts experience weightlessness due to the lack of gravitational pull in space.	
x-ray	promieniowanie X
Doctors may use x-rays to determine any fractures in a patient's bones.	