ENGINEERING PHYSICS NOTES FOR DIFFRACTION

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What is diffraction in engineering physics short notes? Diffraction of light is defined as the bending of light around corners such that it spreads out and illuminates areas where a shadow is expected. In general, it is hard to separate diffraction from interference since both occur simultaneously.

What are the key points of diffraction? Key Points. Diffraction is the concept that is explained using Huygens's Principle, and is defined as the bending of a wave around the edges of an opening or an obstacle. This principle can be used to define reflection, as shown in the figure. It can also be used to explain refraction and interference.

What is interference and diffraction in engineering physics? Interference may be defined as waves emerging from two different sources, producing different wavefronts. Diffraction, on the other hand, can be termed as secondary waves that emerge from the different parts of the same wave. The contrast between maxima and minima is very good.

What are two types of diffraction?

What is the basic principle of diffraction? The bending of a wave around the edges of a barrier is known as diffraction. Huygens' Principle is used to illustrate this notion. "Every point on a given wavefront is by itself a source of a number of spherical wavelets," according to Huygens' principle.

What are the applications of diffraction of light in engineering physics? This phenomenon is used in applications such as laser spectroscopy, holography, and

optical storage devices like CDs and DVDs. By exploiting the principles of light diffraction, lasers enable precise measurements, high-resolution imaging, and data storage capabilities.

What are 5 examples of diffraction?

What two factors affect diffraction? Wave diffraction is affected by the wavelength of the wave, the size of the obstacle or opening, and the wave's amplitude. The wavelength of the wave is a significant factor in diffraction. Waves with longer wavelengths diffract more than those with shorter wavelengths.

What is the basic concept of diffraction? Diffraction is the spreading out of waves as they pass through an aperture or around objects. It occurs when the size of the aperture or obstacle is of the same order of magnitude as the wavelength of the incident wave.

Why does intensity decrease in diffraction? - Therefore, the intensity of the secondary maxima is less than that of the central maximum because the constructive interference at these points involves contributions from fewer parts of the slit, leading to a lower resultant amplitude and thus lower intensity.

How to understand diffraction? What Is Diffraction? We classically think of light as always traveling in straight lines, but when light waves pass near a barrier they tend to bend around that barrier and become spread out. The definition of diffraction is the spreading of waves as they pass through or around an obstacle.

Under what conditions is diffraction observed? The condition of diffraction is that the width of the obstacle must be less than or comparable with the wavelength of the wave. The greater the wavelength of the wave higher will be its degree of diffraction.

What is diffraction engineering physics? diffraction, the spreading of waves around obstacles. Diffraction takes place with sound; with electromagnetic radiation, such as light, X-rays, and gamma rays; and with very small moving particles such as atoms, neutrons, and electrons, which show wavelike properties.

Is diffraction a wave or particle or both? Thus diffraction is clearly a wave phenomenon with no explanation on the basis of the particle picture.

Why is a convex lens used in diffraction? => Fraunhofer's diffraction is a type of diffraction that occurs when the light source and the observation plane are effectively infinitely far from the diffracting object. This condition can be achieved by using convex lenses to focus the light rays before and after the object.

What is diffraction physics short? diffraction, the spreading of waves around obstacles. Diffraction takes place with sound; with electromagnetic radiation, such as light, X-rays, and gamma rays; and with very small moving particles such as atoms, neutrons, and electrons, which show wavelike properties.

What is the diffraction of light short answer? What Is Diffraction? We classically think of light as always traveling in straight lines, but when light waves pass near a barrier they tend to bend around that barrier and become spread out. The definition of diffraction is the spreading of waves as they pass through or around an obstacle.

What is diffraction in one word? noun. The bending and spreading of a wave, such as a light wave, around the edge of an object.

What is diffraction of sound in short note? Diffraction is the bending and spreading out of light or sound waves around an object. Both light and sound transfer energy through waves. When a light wave or a sound wave encounters an object such as a wall or an aperture such as a door, the wave energy bends around the object or opening, thus changing direction.

The Mediterranean and World in the Age of Philip II

Volume I: Fernand Braudel's Masterpiece

Question 1: What is the significance of Fernand Braudel's "The Mediterranean and World in the Age of Philip II"?

Answer: Fernand Braudel's magnum opus, published in 1949, is a seminal work that revolutionized the field of history. It examines the interconnectedness of the Mediterranean Sea as a single historical entity, spanning the period from the mid-15th to the mid-17th centuries. Braudel's innovative approach, combining geography, economics, and social history, opened up new perspectives on the interactions between different cultures and civilizations.

Question 2: What was Braudel's main argument in the book?

Answer: Braudel argued that the Mediterranean region was not merely a collection of isolated societies but a complex, interdependent system with its own distinctive rhythms and cycles. He divided history into three distinct timescales: the "longue durée" (long-term structures), the "conjunctures" (medium-term fluctuations), and the "événements" (short-term events). Braudel emphasized the importance of the "longue durée" in shaping human societies, including economic cycles, environmental factors, and cultural traditions.

Question 3: How did Braudel's work challenge traditional historical narratives?

Answer: Braudel broke with traditional historical accounts that focused primarily on political and military events. He demonstrated that economic, social, and environmental factors played a crucial role in shaping the course of history. By examining the interactions between different civilizations within the Mediterranean basin, Braudel highlighted the fluidity and interconnectedness of human experience.

Question 4: What are some of the key themes explored in the book?

Answer: Braudel's work explores a wide range of themes, including: trade and commerce, the rise of capitalism, the impact of climate change, the spread of Christianity and Islam, and the role of technology in shaping human societies. He argued that the Mediterranean was a crossroads of civilizations, where ideas, goods, and cultures exchanged and blended in a vibrant and transformative process.

Question 5: How has Braudel's work influenced historical research?

Answer: "The Mediterranean and World in the Age of Philip II" has had a profound influence on historical research and remains a foundational text in the field. Braudel's interdisciplinary approach and emphasis on the "longue durée" have inspired generations of historians to adopt more holistic and long-term perspectives in their work. The book continues to be a seminal source for understanding the interconnected nature of civilizations and the complex forces that shape human history.

What is the Japanese art of sword making? Japanese swordsmithing is the labour-intensive bladesmithing process developed in Japan beginning in the sixth century for forging traditionally made bladed weapons (nihonto) including katana, wakizashi, tant?, yari, naginata, nagamaki, tachi, nodachi, ?dachi, kodachi, and ya (arrow).

What is the Japanese art of swordsmanship? Kenjutsu (??) is an umbrella term for all (ko-bud?) schools of Japanese swordsmanship, in particular those that predate the Meiji Restoration. Some modern styles of kendo and iaido that were established in the 20th century also included modern forms of kenjutsu in their curriculum.

Who was the best samurai sword maker? Masamune (1264-1343) is often considered the greatest katana smith of all time. His blades are known for their exceptional sharpness, perfect balance and refined aesthetics. He perfected the technique of selective tempering, which made it possible to create katanas that were both hard and durable.

What is the art of the sword? The art of the sword (??, Kenjutsu) is a weapon-related fighting style.

Can I learn kenjutsu by myself? Learning anything as profound as a martial art needs a teacher. Kenjutsu, while fairly straightforward with a superficial glance, contains a lot of intricate subtleties and nuances. We need a few things to study properly. Firstly a mentor, guide, or teacher.

What is a real Japanese sword called? A katana (?, ???) is a Japanese sword characterized by a curved, single-edged blade with a circular or squared guard and long grip to accommodate two hands.

Who is the Japanese god of swordsmanship? Takemikazuchi (???/???) is a deity in Japanese mythology, considered a god of thunder and a sword god. He also competed in what is considered the first sumo wrestling match recorded in history. Earthquake-warding song (a namazu-e woodblock pamphlet, October 1855).

Does swordsmanship still exist? Sword fencing and sword dances are still practiced in much of the Middle East. In countries like Oman the weapon is typically ENGINEERING PHYSICS NOTES FOR DIFFRACTION

paired with a shield or sometimes a dagger, of which many varieties exist. The spread of Islam was a unifying force in the Middle East, easing trade routes across the region.

Is swordsmanship a skill? In the martial discipline of armored combat, swordsmanship skills are of paramount importance. The ability to wield a sword with precision, agility, and strength can mean the difference between victory and defeat.

Why are swords illegal in Japan? The first Hait?rei of 1870 prohibited farmers or merchants from wearing swords and dressing like samurai. This measure was in part an effort to restore public safety and order during the tumultuous period immediately after the Meiji Restoration and during the Boshin War.

Are there any real Samurai swords left? Japanese swords are still commonly seen today; antique and modern forged swords can be found and purchased.

Are real Samurai swords still made? This process has been preserved across the centuries, and has changed little since the time when lords and samurai lived by their swords. Today, sword making is regulated and only licensed bladesmiths may make katana, samurai-style curved single-edged swords. Today, ten such swordsmiths belong to Gifu.

What did God say about the sword? "Then Jesus *said to him, "Put your sword back into its place; for all those who take up the sword will perish by the sword."

What is the sword of God? The sword of the Spirit is how Paul describes the word of God and its role in spiritual warfare. While truth, salvation, faith, and righteousness are also depicted as essential pieces of armor, the Word of God is depicted as the offensive weapon used in spiritual warfare against the devil, demons, and their schemes.

What is Japanese sword fighting called? Kendo is one of traditional Japanese martial arts, or budo, that arose from the samurai, or warrior in feudal Japan, fighting with bamboo "swords." Kendo players wear protective gear like armor over kimono-like training wear. Kendo differs from many other sports.

Is kenjutsu still taught? The art of the samurai sword is still alive and can be practiced today, with the closest approximation of the experiences by which samurai ENGINEERING PHYSICS NOTES FOR DIFFRACTION

lived for centuries.

Is there a martial art you can learn on your own? Karate teaches a number of striking techniques such as kicking, punching and sparring and relies on balance, speed and power to be executed successfully. Many of karate's techniques don't require another person to learn (although this is always useful) and so it makes good practice to self-teach.

Does kenjutsu use chakra? There are what we call users of regular or normal Kenjutsu, they just have good techniques and don't use Chakra in their attacks. Generally, they are weak against Ninjutsu users.

What is the holy grail of Japanese swords? Honj? Masamune It is one of the best known of the swords created by Masamune and is believed to be among the finest Japanese swords ever made. It was made a Japanese National Treasure (Kokuh?) in 1939.

Why do samurai carry two swords? When worn together the pair of swords were called daish?, which translates literally as "big-little". Only samurai could wear the daish?: it represented their social power and personal honour.

How much should a real katana cost? Aspiring Japanese-made katana-owners must be deep-pocketed to shell out at least \$3,000, while serious collectors can spend as much as \$200,000 for an authentic katana. Perhaps even more. Several factors influence the price of these fabled Japanese swords, and we'll explore each.

What is the most cursed sword? In popular culture, Muramasa swords have been often depicted as cursed swords with demonic powers. Oscar Ratti and Adele Westbrook said that Muramasa "was a most skillful smith but a violent and ill-balanced mind verging on madness, that was supposed to have passed into his blades.

What does Susanoo mean? Susanoo, (Japanese: Impetuous Male), in Japanese mythology, the storm god, younger brother of the sun goddess Amaterasu. He was born as his father Izanagi washed his nose. Susanoo, having been granted charge of the sea plain, was driven out of heaven because of his outrageous behaviour at his sister's court.

Is cursed katana real? The Truth about the Muramasa Katana However, due to its association with a number of dark myths and stories, it is often referred to as the "evil and cursed Japanese sword." Also, some people have referred to it as the most powerful Katana ever made, even though it is not true, probably due to its legendary status.

What is the deadliest sword style in the world? The Katana Using the katana as an actual weapon was most popular around the feudal era in Japan, although the sword was not the most popular weapon on the battlefield. That honor went to bows and polearms for practical reasons. Nevertheless, the katana gained a reputation as a sword of unmatched cutting power.

Can swordsmanship be self taught? Swordsmanship training is not a solo endeavor. Although sword training has been popularized as a solo activity, it strictly is not one, historically. Some training is done by oneself of course, but the sword is meant to be used against another person. Combat is extremely complicated.

Which country had the best swordsmanship? No other region in the world has had a more profound impact on the development of swordsmanship through the years than Japan, which is why it's home to some of the greatest sword masters in history. Kamiizumi Nobutsuna was a renowned samurai in 16th-century Japan.

What is the process of making a Japanese sword? After the smith hammers all impurities from the different steels, high-carbon steel is heated and shaped into a long piece with a U-shaped channel. The low-carbon steel is also heated and hammered into a strip that fits snuggly into the channel. The two metals are then forged together.

What are the Japanese sword making periods?

What's the difference between kendo and kenjutsu? Nowadays, Kendo refers primarily to fencing. Kenjutsu means "art of the sword" and refers to a martial art that predates the 1800s and teaches how to use the Japanese Samurai sword, either Tachi or Katana or both (our dojo learns both). Fencing is not actual sword fighting.

Is kenjutsu still practiced? The art of the samurai sword is still alive and can be practiced today, with the closest approximation of the experiences by which samurai ENGINEERING PHYSICS NOTES FOR DIFFRACTION

lived for centuries.

What makes samurai swords so strong? Katana-makers use two types of tamahagane: high-carbon, which is very hard and allows for a razor-sharp edge, and low-carbon, which is very tough and allows for shock absorption. A sword composed simply of one kind of steel or the other would either dull too quickly or be too brittle.

Can you own a sword Japan? While katana are illegal in Japan unless they are certified as important cultural properties or art objects, other types of swords are legal to own and carry in the country. These include: Wooden swords or bokken, which are used for sword training and martial arts practice.

Are there still Japanese sword makers? Currently, only around 300 swordsmiths in Japan remain active in sword making. However, only 30 are able to make swordsmithing their sole job. The Yoshihara workshop, the only place in Tokyo that continues the tradition of sword crafting, has 6 apprentices.

Why did samurai carry two swords? As a male member of this class, you were forced to carry two swords, and only samurai were allowed to carry long swords. This was how you manifested your position in society. The sword was the object that most clearly showed who the samurai was – a warrior and a part of society's elite.

What is the Japanese sword art called? Kenjutsu refers to the historical art of Japanese swordsmanship. This term encompasses various techniques and styles that have developed in Japan over several centuries. The modern art of swordsmanship is now called Kendo or laido in Japan. Originally, the feudal Samurai practiced this martial art.

What is the most famous Japanese sword? The Honj? Masamune represented the Tokugawa shogunate during most of the Edo period and was passed down from one sh?gun to another. It is one of the best known of the swords created by Masamune and is believed to be among the finest Japanese swords ever made. It was made a Japanese National Treasure (Kokuh?) in 1939.

Why was kendo banned? In the 1930s, Kendo was added to the Japanese school curriculum, as a result of its patriotic affiliations. The end of WWII saw all Japanese martial arts, including Kendo, banned by Occupation Forces, due to it's nationalistic

association.

Why is kendo so expensive? Kendo equipment can be costly for a number of reasons: High-quality materials are used to create kendo equipment like the shinai (bamboo swords), bogu (armour), and hakama (pleated pants). These items are made to last for many years. The equipment can be expensive to construct because of its durability.

Is kendo offensive or defensive? Training in kendo is based on a variety of offensive and defensive movements or techniques (waza).

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Does kenjutsu use chakra? There are what we call users of regular or normal Kenjutsu, they just have good techniques and don't use Chakra in their attacks. Generally, they are weak against Ninjutsu users.

What martial art did samurai use? In grappling, hitting, swordsmanship, archery, riding, knot tying, and battlefield plans, the Samurai developed their combat techniques. The entire current disciplines of Akido, Judo, Kendo, Iado, Karate, and many more would have been incorporated in their whole combat system.

How much horsepower does a Lifan 125 have? The engine produces a maximum peak output power of 14.80 HP (10.8 kW) @ 7500 RPM and a maximum torque of 11.50 Nm (1.2 kgf-m or 8.5 ft.

What is the engine code for Lifan 125? Engine complete Lifan 125cc 1P52FMI / 1P54FMI.

What is the top speed of the Lifan 110cc engine? The engine produces a maximum peak output power of 6.16 HP (4.5 kW) @ 7500 RPM and a maximum torque of. With this drive-train, the Lifan LF110 Super X is capable of reaching a maximum top speed of 80.0 km/h (49.7 mph) and the dry weight is 65.0 kg (143.3 pounds).

How many gears does a Lifan 125 have? Compression: 9.0:10. Engine oil: 900ml, 15W/40-SE, 4 stroke. Oil gears: 4 speed manual clutch, 1 down 3 up. Sprocket: 15T 428 Chain.

Are Lifan engines Chinese? Lifan Industry (Group) Co., Ltd. (Lifan Group or Lifan, Chinese: ??, lit. 'Power Sail') is a civilian owned Chinese motorcycle and automobile manufacturer headquartered in Chongqing, China.

How fast is a 125 engine? How fast is 125cc? Most production 125cc motorcycles have top speeds of 90-115 kmph (about 60-70 mph).

Where are Lifan engines made? Lifan is a worldwide leader in product innovation with our primary manufacturing facilities in China. We manufacture and advertise our products in our name, Lifan, and take great pride in all of our products.

What is 125cc engine? What does 125cc mean? The cc stands for cubic centimetres. It's a measurement of the size of the engine chamber and helps describe how powerful a bike is. The lower the cc, the less power the bike creates.

How fast is a Lifan 200cc motorcycle?

What is the top speed of the Lifan LF 125?

What is the max rpm for a Lifan 140CC?

How fast is 110cc 4-stroke in mph? In short, a 110cc dirt bike should reach a top speed anywhere between 35 mph and 45 mph, although some new and more expensive models claim to be able to get close to the 60 mph mark.

Are 125 dirtbikes fast? Next on our list is the 125cc dirt bike, a popular choice among many riders. On average, a 125cc dirt bike can reach speeds of 50-60 mph. Of course, some models might be able to push this limit a bit further, depending on the manufacturer.

What is the valve clearance of the Lifan 125cc pit bike? Technical info: inlet valve: 27mm. exhaust valve: 23mm. valve adjustment - intake: 0.05 or 0.06 / exhaust: 0.07 or 0.08.

How many gears does a 125 have? Other styles of 125cc motorcycles tend to be geared, with a traditional five or six speed manual gearbox.

Does Lifan make engines for Honda? They are a huge company who builds Honda parts. The HF Predator engines are not a Lifan engine, but long time ago Lifan did build a HF engine but stopped as not cheap enough for HF-it was called the Greyhound engine.

How much horsepower does a Lifan 110cc have? The Lifan 110cc engine is a small, lightweight and reliable four-stroke engine that is commonly used in small motorcycles, dirt bikes, and ATVs. With a displacement of 110 cubic centimeters, it is capable of producing up to 8 horsepower and 7 Nm of torque.

What is the best engine in China? WUHU (China): Chinese automaker Chery's 2.0-litre turbocharged petrol direct injection engine which delivers an impressive 258hp and 400Nm, recently won the 2021 "China Heart" Top 10 Engines Award.

Can a 125cc go 100 mph? A 125cc pit bike's top speed can range from 55 to 60 miles per hour, with the highest recorded speed being a whopping 100 miles per hour. But how fast does a 140cc pit bike go? You can find out in this guide. But, it's important to note that this isn't a standard speed for all riders.

Can a 125cc bike go on the highway? Pocket bikes/Mini motorcycles Operation permitted on private property only. Illegal on highways, sidewalks, bikeways, and hiking or recreational trails.

What's the fastest 125cc? THE FASTEST 125CC IN THE MCN GROUP TEST Motorcycle News took six of the best sporty 125s for a two-day thrash to find the perfect L-plate thriller. The GSX-R125 topped MCN's speed chart with a speedometer reading of 72.75mph and also topped their track day table making it the most fun 125cc bike to ride.

How many HP is a 125cc engine? normal range of hp of 125cc lies in between 9 to 15 hp. but hp does not depend on cc of engine. hp depends on bore length, stroke length, compression ratio, and rpm limit of engine. that's why some engine with same cc create more hp, and some create less hp.

Are any Honda engines made in China? Honda engines have been made in China for a number of years but engineering was handled in Japan. That is changed. The worst news may be that almost all large scale production of small engines in the world are now either owned by, manufactured by, or in some way managed by China. Think about that.

What is the top speed of the Lifan bike? Lifan KPR 200 Price In BD (Aug 2024) This Bike is powered by 200cc, which generates a Maximum power of 17.00 Bhp @ 8000 rpm, and its maximum torque is 16.95 Nm @ 6500 rpm. This Bike mileage in city 45 KM (approx.) and on highway 50 KM (approx.) Top Speed 140 KMPH (approx.)

What is the life expectancy of a 125cc engine? With proper care and driving, a motorcycle's engine may last for more than 80,000 miles before it needs to be replaced. However, some fundamental rules might give you an idea of what to anticipate. This article will discuss the typical lifespan of a 125cc engine and how long it can last.

Which bike is the king of 125cc?

Is a 125 cc engine good? A 125cc engine is a small option, best for those looking for inner-city commutes, moderate speeds, and fuel efficiency. This is also a good option for a beginner.

How much horsepower does a 125 have? How Much Horsepower Does a 125cc Have? Some Dirt Bikes with an engine capacity of 125cc tend to have horsepower ranging between 33hp and 36hp, with revolutions per minute (rpm) of around 13,000. The engines feature a single piston with 2 cycles per stroke.

How much horsepower does a 125 bike have?

How much horsepower does a 125cc kart have? The Impact of Engine Horsepower A 4-stroke 125cc go-kart engine generally boasts 6-9 HP, propelling the kart to a top speed of 25-35 mph (40-56 kph). But remember, these aren't your average lawn mower engines; they're tuned for performance!

What is the top speed of the Lifan LF 125?

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What is the most powerful 125cc engine?

Can an adult ride a 125cc dirt bike? Adults can ride a 125cc dirt bike.

What is the fastest 125cc bike?

What makes a 125 faster? Upgrade the Carburetor or Fuel Injection System: Upgrading the carburetor or fuel injection system can also help boost power by delivering a richer air-fuel mixture. This can optimize engine performance across different riding conditions.

Is a 125cc motorcycle powerful? A 125cc motorcycle is a motorcycle with a 125cc engine, with some of the more powerful 125cc models able to hit speeds of 70mph, whilst being able to cruise at 50-60mph more than comfortably. The cc is the measurement of the engine chamber and can determine how powerful the bike is.

How fast is 125cc in mph? A 125cc dirt bike generally hits a top speed of 60 mph.

How fast does a 125cc engine go? 125cc Dirt Bike – 50-60mph On average, a 125cc dirt bike can reach speeds of 50-60 mph.

How fast do 2 stroke karts go? 2-Cycle Engine Performance The 250cc 2-stroke super karts are true embodiments of power and speed. These racing karts with their two-stroke motors, can attain a peak speed of 130-140 mph, making them some of the fastest go-karts around.

Who makes Lifan? CHONGQING LIFAN POWER CO., LTD.

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What is the max rpm for a Lifan 140CC?

the mediterranean and world in age of philip ii volume i fernand braudel, the art of the japanese sword the craft of swordmaking and its appreciation, lifan 125cc s

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