

IEEE GUIDE FOR PARTIAL DISCHARGE TESTING OF SHIELDED POWER

FAQs about IEEE GUIDE FOR PARTIAL DISCHARGE TESTING OF SHIELDED POWER

What is the standard for partial discharge testing? IEC 60270 – High-voltage test techniques – Partial discharge measurements is a general standard that defines the broad lines of partial discharge (PD) measurement in electrical apparatus. It is applicable for electrical measurements of PD using alternating voltages up to 400 Hz and direct voltage.

How do you test for partial discharge? Using an airborne ultrasonic microphone is the most sensitive way to detect PD where there is an air path between the source and the microphone. Contact ultrasonic sensors can be used for sealed chambers. -PD generates Transient Earth Voltages (TEV) – high frequency electromagnetic pulses.

What is partial discharge of cables? Partial Discharge - A flashover of part of the insulation system due to a localized electric field greater than the dielectric withstand capability of that part where the overall insulation system remains capable of withstanding the applied electrical field.

What is partial discharge in high voltage equipment? Partial discharge (PD) happens when a small area of insulation in a high voltage environment cannot cope with the electrical stress and breaks down. It doesn't span the whole distance between two insulated electrodes – that's why it's called 'partial'.

What is partial discharge standard IEC? IEC 60270 – partial discharge measurements (previously high voltage test techniques) – is applicable to the measurement of partial discharge which occurs in electrical apparatus, systems, and components when tested with DC voltage or AC voltage up to 400 Hz.

What is partial discharge test IEC 60664-1? According to standards IEC 60664-1 and IEC 61800-5-1, a transformer passes the partial discharge test if the charge of the stray capacitances is less than 10 pC during the measurement period. Fig. 3 shows the measurement of the charge of the stray capacitances during the partial discharge test.

What is the limit of partial discharge test? As per the standard IEC 60664-1, the device is considered to have passed the partial discharge test if the charge on the stray capacitances as depicted in Figure 4, is less than 10pC during the measurement period.

What is the instrument for partial discharge measurement? The MPD 800 measures partial discharge in compliance with the IEC 60270 standard to ensure the reliable detection of PD activity in instrument transformers.

What is the range of partial discharge? The partial discharge intensity measurement ranges from 2 pC to 50,000 pC (IEC 60 270) and radio interference voltage measurement ranges from 1 V to 25,000 mV (VDE, CISPR).

What is basic partial discharge? Introduction to Partial Discharge Partial discharge occurs when electrical insulation in high-voltage environments deteriorates under stress, leading to insulation failure. Although PD events are small, their impact over time can be significant, potentially leading to equipment failure and safety hazards.

What are the different types of partial discharge? PD can be classified into 3 main types: Internal PD, occurring inside insulation. Surface PD, tracking across insulation. Corona PD, from a sharp electrode into gas.

What defects lead to partial discharge? Mechanical damage: Physical damage to the insulation system can create voids or cracks that can lead to partial discharges. Ageing and deterioration: Over time, insulation materials can degrade due to exposure to heat, moisture, and other factors. This can lead to partial discharges.

How do you detect partial discharge? Partial discharge emits sound in the ultrasonic frequency range. With a high-sensitivity acoustic imaging camera, such as the Fluke ii910 Precision Acoustic Imager, you can detect and precisely locate partial discharge.

Is partial discharge the same as arcing? Partial discharge currents tend to be of short duration and have rise times in the nanosecond realm. On an oscilloscope, the discharges appear as evenly spaced burst events that occur at the peak of the sinewave. Random events are arcing or sparking.

What is the difference between partial discharge and electrical discharge? “Partial discharge (PD) is a localized electrical discharge that only partially bridges the insulation between conductors and which may or may not occur adjacent to a conductor.” PD occurs whenever there is a stressed region due to some impurity/cavity inside the insulation or when there is a protrusion outside it.

What is a partial discharge test in cables? The purpose of partial discharge testing of MV/HV cables is to find the discharge before it leads to flashover and catastrophic failure. Once PD starts, it will always grow until the insulation fails. This FAQ discusses testing of cables such as XLPE, EPR and PILC.

What is the purpose of partial discharge? Partial Discharge Testing plays a critical role in determining the health of your electrical assets and ensuring maximum uptime. It also provides asset managers with the critical information to target maintenance resources to the areas that require the most attention.

What is the apparent charge of a partial discharge? The apparent charge (q) of a PD event is not the actual amount of charge changing at the PD site. Instead, it is the change in charge that, if injected between the terminals of the device under test, would change the voltage across the terminals by an amount equivalent to the PD event.

What is the value of partial discharge test? What Parameters are Typically Measured During a Partial Discharge Test? Pulse Charge: Partial discharge pulses characteristically have rise times that are 1 μ s in liquid dielectrics and 1 ns in solid dielectrics.

What is the IEC 60664 standard? IEC 60664 is an international standard titled "Insulation coordination for equipment within low-voltage systems." It provides guidelines and requirements for the insulation coordination of electrical equipment in low-voltage systems to ensure the safe and reliable operation of electrical installations.

What is the inception voltage of partial discharge? In IEC TR 61294 is also defined the Partial Discharge Inception Voltage (PDIV) as the lowest value at which at least only one partial discharge

occurs of an apparent charge equal to or exceeding 100 pC, when the oil sample is tested under some specified conditions.

What is the limit of partial discharge test? As per the standard IEC 60664-1, the device is considered to have passed the partial discharge test if the charge on the stray capacitances as depicted in Figure 4, is less than 10pC during the measurement period.

What is the range of partial discharge? The partial discharge intensity measurement ranges from 2 pC to 50,000 pC (IEC 60 270) and radio interference voltage measurement ranges from 1 V to 25,000 mV (VDE, CISPR).

What is the standard for adhesion test? ASTM D3359 is a standard test methods for measuring adhesion by tape test. This test assesses the adhesion of film coatings to metallic substrates by applying and removing pressure-sensitive tape over cuts made in the film.

What is the test standard for electrostatic discharge? The current waveform for ESD testing is a major component in compliance to standards or test requirements. The most common of the commercial standards, IEC 61000-4-2, indicates a . 8 ns rise time and current requirements at 60 ns and 30 ns for contact discharge.

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called 'partial'

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| 1. Partial discharge | electrical engineering, partial discharge (PD) is a localized dielectric breakdown (DB) (which does not completely bridge the space between the two conductors)... |
| 2. Nickel–metal hydride battery (redirect from Low self-discharge NiMH battery) | attributed to the memory effect) from repeated partial discharge can occur, but is reversible with a few full discharge/charge cycles. A fully charged cell supplies... |
| 3. Centrifugal compressor (category Commons category link is on Wikidata) | 0.34 kg/s Total pressure ratio, inlet to discharge (PRT-t = Pt,discharge/Pt,inlet): 1.0 – 2.6 As is standard practice, Figure 5.2 has a horizontal axis... |
| 4. Graduated pipette (category Commons category link is on Wikidata) | polystyrene. The standard classification of graduated pipettes is according to shape, delivery tips, graduation lines, periods of infill and discharge, and calibration... |
| 5. Clean Water Act (redirect from National Pollutant Discharge Elimination System) | basic national discharge standard for all facilities within a category, using a "Best Available Technology." The standard becomes the minimum regulatory... |
| 6. Toyota Prius (XW20) (category Short description is different from Wikidata) | parking against the curb. The Touring Edition also comes with a firmer, European-style, tuned suspension, standard high-intensity-discharge (HID) headlights... |
| 7. Network Equipment-Building System (category History of telecommunications in the United States) | specifications for fire suppression, thermal margin testing, vibration resistance (earthquakes), airflow patterns, acoustic limits, failover and partial operational... |

8. Cable harness (section Industry quality standard) publication has standards for a wide range of elements within a cable harness, including but not limited to electrostatic discharge protection, conduit...
9. Lithium-ion battery (category Commons category link is on Wikidata) represents the summation of the partial cycles as fractions of a full charge-discharge cycle. Battery degradation during storage is affected by temperature...
10. Aquifer test analyze the results of an aquifer test. Aquifer testing differs from well testing in that the behaviour of the well is primarily of concern in the latter...
11. Nitrox (redirect from Standard nitrox) atmospheric air is in scuba diving, where the reduced partial pressure of nitrogen is advantageous in reducing nitrogen uptake in the body's tissues,...
12. Natural experiment (category Short description is different from Wikidata) tissues. The release stopped after the Partial Nuclear Test Ban Treaty in 1963, which prohibited atmospheric nuclear tests. This resembled a large-scale pulse-chase...
13. Faraday cage (category Commons category link is on Wikidata) electronic equipment (for example RF receivers) from external radio frequency interference (RFI) often during testing or alignment of the device. Faraday cages...
14. Rebreather diving (redirect from Flushing the loop) all failing at the same time, and testing the cells before a dive at oxygen partial pressure above the alarm value is likely to identify cells that are...
15. Failure of electronic components (category Short description is different from Wikidata) substrate or another latchup; the JEDEC78 standard tests susceptibility to latchups. Electrostatic discharge (ESD) is a subclass of electrical overstress and...
16. Pap test referred for HPV DNA testing, which can serve as an adjunct to Pap testing. In some countries, viral DNA is checked for first, before checking for abnormal...
17. Santa Susana Field Laboratory (category Environmental disasters in the United States) II, III, and IV, and the northern and southern buffer zones). Areas I through III were used for rocket testing, missile testing, and munitions development...
18. Normal distribution (redirect from Standard normal distribution) σ^2 is the variance. The standard deviation of the distribution is σ (sigma). A random variable with a Gaussian distribution is said...
19. Water pollution (category Pages using sidebar with the child parameter) legal to discharge wastewater to surface waters without testing for or removing water pollutants. The CWA was amended in 1981 and 1987 to adjust the federal...
20. Nuclear meltdown (redirect from Partial fuel meltdown) meltdown or partial core melt) is a severe nuclear reactor accident that results in core damage from overheating. The term nuclear meltdown is not officially...

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What is the MFCC feature extraction method? MFCC is a feature extraction technique widely used in speech and audio processing. MFCCs are used to represent the spectral characteristics of sound in a way that is well-suited for various machine learning tasks, such as speech recognition and music analysis.

What is emotion recognition using MFCC? Mel Frequency Cepstral Coefficient (MFCC) technique is used to recognize emotion of a speaker from their voice. The designed system was validated for Happy, sad and anger emotions and the efficiency was found to be about 80%.

What is feature extraction for emotion recognition? The emotion recognition comprises of three major phases feature extraction, feature selection and classifiers. The present chapter provides an overview of feature extraction techniques utilized by researchers in frequency domain analysis, time domain analysis and time-frequency domain analysis.

What is MFCC speech recognition? 2.1 Feature extraction using Mel Frequency Cepstrum Coefficient (MFCC) method Mel Frequency Cepstrum Coefficient (MFCC) is a method of feature extraction of voice signals. Feature extraction is the process of determining a value or vector that can be used as an object or an individual identity.

What are the three types of feature extraction methods? Feature Extraction offers three methods for supervised classification: K Nearest Neighbor (KNN), Support Vector Machine (SVM), or Principal Components Analysis (PCA).

What does MFCC tell us? Mel-Frequency Cepstrum Coefficients (MFCC) The result is that the vocal tract can be estimated by the spectral envelope of a speech segment. The motivating idea of MFCC is to compress information about the vocal tract (smoothed spectrum) into a small number of coefficients based on an understanding of the cochlea.

Which algorithm is best for speech emotion recognition? Commonly used algorithms and models for Speech Emotion Recognition (SER) include: Support Vector Machines (SVM)

What are emotion recognition methods?

What methodology is used in speech emotion recognition? SER is commonly achieved following three key steps: data processing, feature selection/extraction, and classification based on the underlying emotional features. The nature of these steps, coupled with the distinct features of human speech, underpin the use of ML methods for SER implementation.

What is feature extraction in simple words? Feature extraction refers to the process of transforming raw data into numerical features that can be processed while preserving the information in the original data set.

What is emotion recognition tools? Emotion recognition technology detects and comprehends human emotions by processing data from facial expressions, tone of voice, body language, and text. This technology is based on artificial intelligence (AI) using deep learning and machine learning algorithms.

What is the purpose of emotion recognition? Emotion recognition guides response and action toward potential friendly or threatening others. As well, emotion recognition is paramount to successful communication between individuals. In order to identify emotions, we process both static and dynamic cues, such as facial expressions and bodily gestures.

What are the disadvantages of MFCC? The most notable downside of using MFCC is its sensitivity to noise due to its dependence on the spectral form. Methods that utilize information in the periodicity of speech signals could be used to overcome this problem, although speech also contains a periodic content [4].

Why is MFCC useful? The MFCCs are used as features in machine learning models for speech and audio processing tasks such as speaker identification, emotion recognition, and speech recognition.

How many features are there in MFCC? One popular audio feature extraction method is the Mel-frequency cepstral coefficients (MFCC) which have 39 features. The feature count is small enough to force us to learn the information of the audio. 12 parameters are related to the amplitude of frequencies.

Which algorithm is best for feature extraction?

What is feature extraction for dummies? Feature extraction transforms raw data, with image files being a typical use case, into numerical features that are compatible with machine learning algorithms. Data scientists can create new features suitable for machine learning applications by extracting the shape of an object or the redness value in images.

What are the 5 methods of extraction? In general, extraction procedures include maceration, digestion, decoction, infusion, percolation, Soxhlet extraction, superficial extraction, ultrasound-assisted, and microwave-assisted extractions.

What is MFCC in psychology? The cepstrum, mel-cepstrum and mel-frequency cepstral coefficients (MFCCs) The spectrogram is a useful representation of speech in the sense that it visualizes effectively many pertinent features of speech signals.

How do you visualize MFCC? To visualize the MFCC, we can use Matplotlib to create a heatmap. Each row in the MFCC matrix represents a different coefficient, and each column represents a frame in the audio signal.

Which is better mel-spectrogram or MFCC? The MFCC is a bit more decorrelated, which can be beneficial with linear models like Gaussian Mixture Models. With lots of data and strong classifiers like Convolutional Neural Networks, mel-spectrogram can often perform better.

What is the best model for speech emotion recognition?

What are the algorithms for emotion recognition? To identify such emotions, the emotion detection system uses KNN Classifier for image classification, and Haar cascade algorithm an Object Detection Algorithm to identify faces in an image or a real-time video.

What neural network is used for emotion recognition? (4) A convolutional neural network-Bi-directional Long Short-Term Memory (CNN-BiLSTM) algorithm is used to analyze the emotion through speech and images of learners in the intelligent learning environment. The machine learning algorithm based on classification enhancement is used for speech emotion recognition.

What are the sensors for emotion recognition? The sensors used for emotion recognition mainly include visual sensors, audio sensors, radar sensors, and other physiological signal sensors, which can collect signals of different dimensions and achieve emotional analysis through some algorithms.

Is there a device that can detect emotions? South Korean scientists have created a wearable device capable of recognizing and translating human emotions. Both stretchable and transparent, the device is powered by a triboelectric effect, meaning it is self-powered by the wearer.

What is the technology for emotion recognition? Facial Emotion Recognition (FER) is the technology that analyses facial expressions from both static images and videos in order to reveal information on one's emotional state.

What is feature extraction method of speech recognition? Feature extraction is process of obtaining different features such as power, pitch, and vocal tract configuration from the speech signal. Parameter transformation is the process of converting these features into signal parameters through process of differentiation and concatenation.

What is the feature pattern extraction method? 16.2. Feature extraction is a process that identifies important features or attributes of the data. Some examples of this technique are pattern recognition and identifying common themes among a large collection of documents.

What is feature extraction how it is done? What Is Feature Extraction? Feature extraction refers to the process of transforming raw data into numerical features that can be processed while preserving the information in the original data set. It yields better results than applying machine learning directly to the raw data.

What is the feature extraction method for character recognition? In feature extraction stage each character is represented as a feature vector, which becomes its identity. The major goal of feature extraction is to extract a set of features, which maximizes the recognition rate with the least amount of elements.

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What is feature extraction for facial expression recognition? The prevalent feature extraction approaches in facial expression recognition are Wavelet transform, local descriptors, geometric descriptors, component analysis, etc.

Which method is best for feature extraction?

What is the tool for feature extraction? Autoencoders, wavelet scattering, and deep neural networks are commonly used to extract features and reduce dimensionality of the data. Wavelet scattering networks automate the extraction of low-variance features from real-valued time series and image data.

What are the practical uses of feature extraction? Feature extraction helps to reduce the amount of redundant data from the data set. In the end, the reduction of the data helps to build the model with less machine effort and also increases the speed of learning and generalization steps in the machine learning process.

What is a feature extraction in psychology? Feature extraction is the process of identifying and selecting the most important information or characteristics from a data set. It's like distilling the essential elements, helping to simplify and highlight the key aspects while filtering out less significant details.

What are the disadvantages of feature extraction? Disadvantages of Feature Extraction Methods
Complexity: Feature extraction is a complex process that requires a deep understanding of the problem domain, the data and techniques applied. It demands expertise and can become even more complicated when dealing with unstructured data.

What is the difference between feature detection and feature extraction? Feature Detection and Feature Extraction
The key to feature detection is to find features that remain locally invariant so that you can detect them even in the presence of rotation or scale change. Feature extraction involves computing a descriptor, which is typically done on regions centered around detected features.

How is feature extraction done? Feature Extraction is the process of transforming raw data, often unorganized, into meaningful features. These are then used to train machine learning models. In today's digital world, machine learning algorithms are used widely for credit risk prediction, stock market forecasting, early disease detection, etc.

What is feature extraction in sentiment analysis? A crucial part of sentiment classification is featuring extraction because it involves extracting valuable information from text data, which affects the model's performance. The goal of this paper is to help in selecting a suitable feature extraction method to enhance the performance of sentiment analysis tasks.

How to extract features from an image? Use filters like edge detectors or colour histograms to capture essential characteristics. Apply feature extraction techniques such as SIFT, SURF, or HOG to identify key points and descriptors. Alternatively, utilize pre-trained convolutional neural networks

(CNNs) for complex feature extraction.

EXTRACTING MFCC AND GTCC FEATURES FOR ..., In this report, the Mel Frequency Cepstrum Coefficient (MFCC) feature has been used for designing an automatic emotion detection system. Some modifications to ... academia

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At what age should a child learn chess? At what age can you begin to teach chess to a child?

According to Dr. Alexey Root, a former U.S. women's champion and a senior lecturer at UT Dallas, you can begin as early as five years old. At least that's what I took from her new book "Thinking with Chess" which has the subtitle "Teaching Children Ages 5-14."

How can I teach my child to play chess?

Is chess good for a 7 year old? Playing chess is known to increase IQ, promote critical thinking, and teach core math and verbal skills. It also helps kids retain information, improve test scores, solve problems, remain calm under pressure, and perform well in school.

What is the best website for kids to learn chess? Chess.com is the #1 place for sharing, learning, and playing chess for kids and grown-ups alike. Over 5 million chess lovers – young and old, GMs and beginners, love Chess.com.

Does chess improve IQ? Chess Helps Raise Intelligence Quotient (IQ) It is somewhat true that the more intelligent kids tend to gravitate towards chess. But modern research has shown that it does not matter if a child has been previously exposed to chess, and only four months of chess training can significantly increase their overall IQ.

Are chess kids smart? "The data indeed confirm that chess players are generally of higher academic standing (chess kids are smart), but more importantly it statistically shows that learning chess increases a student's academic performance (chess makes them smarter)," Poston said.

Is chess good for kids brains? The skills taught through the game of chess go far beyond the board. Learning chess can help children prepare for life difficulties, teach them how to solve problems in a creative way, and benefit children through improved IQ, memory function, and prevention of Alzheimer's and dementia.

Why are kids so good at chess? Children pick up complex patterns and skills better at a young age. That is why it is easy to learn new things like languages at a young age than at an older age. Chess is no different. For kids, recognizing patterns, movements, and lines is easy to memorize than at an older age.

Is chess a good hobby for kids? Chess can increase focus, strategic thinking and memory capacity, all of which are great skills for kids to develop - and which come in especially useful when it comes to success in math.

What is partial discharge of cables? What is partial discharge in high voltage equipment? What is partial discharge standard IEC?

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Is chess good for 3 year olds? It is fairly uncommon for a 3-year-old to begin learning chess. Some online forums and blogs suggest that it's best to start children with chess somewhere between the ages of 6 and 8. But Chess at Three and other tutoring groups have found it helpful to start teaching children as young as 3.

Which age is best for chess? Around ages 6-7 years, the brain develops enough to remember stuff like names or numbers. If they have developed enough memory, they should be able to manipulate information from visual sources. This is an important signal that they are good enough to remember the position of chess pieces on the chessboard.

Is 14 too late to learn chess? its not too late to become a GM, but becoming a professional chess player is probably harder than becoming an NBA player. If you wish to pursue chess seriously, by all means go ahead! But it's not fully advisable to set your goals on becoming a professional.

Is it okay to start chess at 13? To reach 2000, you need to be willing to do that too. But you can get there quite quickly with intense effort. To the point: No it is not too late! 13 is a great age to start playing chess.



Figure

Chess Online For Kids - 100% Safe and Free - ChessKid.com, Join 10 million+ kids and enjoy a safe & free online chess experience with the best tools - tactics, puzzles, videos, lessons & more! The #1 kids' site! chesskid.com/



Figure

The Chess Files: At what age can you begin to teach chess to a child?, Learn to play chess with our beginner-friendly ChessKid app! Enjoy free chess games online and offline. Play with friends or challenge the chess bots and ... uschesstrust.org/the-chess-files-at-what-age-can-you-begin-to-teach-chess-to-a-child/#:~:text=By Jim Eade-,At what age can you begin to teach chess to,Children Ages 5%2D14 %E2%80%9D



Figure

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challenging for kids & adults, play against a friend or the computer. chess com/join/chess-online-for-kids#:~:text=Chess com is the %231,beginners%2C love Chess com

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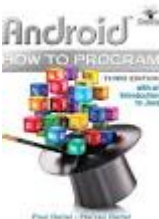
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Figure

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Figure

JavaScript for Programmers - Paul J. Deitel, Harvey M. Deitel, The practicing programmer's Deitel® guide to XHTML®, CSS®, JavaScript™, XML® and Ajax RIA development. This book applies the Deitel signature live-code ... books google com/books/about/JavaScript_for_Programmers.html?id=HdOW3luqHZwC



Figure

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Figure

JavaScript for Programmers: Deitel [1st edition] ..., He holds the Sun Certified Java Programmer and Java Developer certifications and has been designated by Sun Microsystems as a Java Champion. He has lectured on ... [dokumen pub/javascript-for-programmers-deitel-1st-edition-0137001312-9780137001316.html](http://dokumen.pub/javascript-for-programmers-deitel-1st-edition-0137001312-9780137001316.html)
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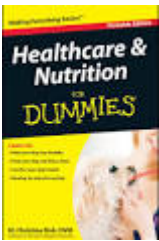
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Figure

Dog Health and Nutrition For Dummies: Zink, M. Christine, Dog Health and Nutrition for Dummies makes it easy to make sure your canine is living a healthy lifestyle. It gives you expert tips and advice. amazon.com/Health-Nutrition-Dummies-Christine-Zink/dp/0764553186



Figure

Dog Health and Nutrition For Dummies, Dog Health and Nutrition for Dummies makes it easy to make sure your canine is living a healthy lifestyle. It gives you expert tips and advice. wiley.com/en-us/Dog+Health+and+Nutrition+For+Dummies-p-x000235104



Figure

Dog Health and Nutrition For Dummies, Dog Health and Nutrition for Dummies (0764553186) gives you all the information you need to properly care for your beloved canine pal. dummies.com/book/home-auto-hobbies/pets/dogs/health-grooming/dog-health-and-nutrition-for-dummies-292531/



Figure

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