Student:

A1. Concepts of power quality

1. **Explain with your own words:**
2. Quality of supply.
3. Current quality.

**Download the UNE-EN IEC 61400-21** *Wind energy generation systems -* ***Part 21-1****: Measurement and assessment of electrical characteristics - Wind turbines*

* Access standards by means UPC / Bibliotècnica / Localización de legislación, normativa, patentes y marcas / Normas UNE AENOR.

You can use the following link:

<https://plataforma-aenormas-aenor-com.recursos.biblioteca.upc.edu/>

* Select your **User type**
* Click on **Send** button.

Select: ‘*Buscador de normas****’*** and search and open the standard **IEC 61400-21**:

*Código:*61400-21

1. **Summarize (shortly) the contents of the standard. According to the standard, when a wind turbine will disconnect from the network?**
2. **Explain with your own words, what is the “fault ride-through”**
3. **Compare the “fault ride-through” requirements specified by different countries.**

# Quality of supply:

In the context of this Master´s (MUSAE), **supply** refers to the electric power provided to a system.  
With the term **quality** we refer to reliability and stability of this supply that directly impacts the proper operation and safety of the electrical equipment on the receiving side.  
  
As seen in class, within the concept “**Supply Quality**” we differentiate various concepts with the critical ones being: Grid frequency, Flickers and voltage dips.

# Current Quality:

Closely related to “Quality of supply” but specially focuses on the characteristics of the electrical current waveform.

As seen in class, within the concept “**Current Quality**” we differentiate various concepts with the critical one being THD or deviations from the ideal Current waveform.