4.1 Wire dipole

Quiz

Answer these questions to get feedback on how well you understand the course. Only one of the answers is correct. You don't have to answer every question. If you don't know the answer you can just leave it blank (default option: "I won't answer this question") and this won't affect your score. Answering **correctly** will **add 2 points** to your score but on the other hand you'll **lose 1 point** if your answer is **wrong**. The questions are divided in groups of five questions.

Press **See result** after you have finished answering.

Displaying questions **1**..**10** of **10**:

Question 1

The wire dipole is an antenna, which can be characterized by the following statement:

Possible answers for question 1:
- ○ The antenna can be build from linear segments of an arbitrary radius.
- ○ The radius of the antenna wire is much smaller than the antenna length and the wavelength.
- ○ The antenna is built from an arbitrary copper wire.
- ◉ I won't answer this question

Question 2

The moment method…

Possible answers for question 2:
- ○ … exploits time instants for evaluating Maxwell equations in the integral form.
- ○ … is a general numeric method for solving Maxwell equations.
- ○ … is a numeric technique for solving Maxwell equations in the integral form.
- ◉ I won't answer this question

Question 3

Directivity pattern of the antenna …

Possible answers for question 3:
- ○ … gives magnitude of field intensity of the radiated wave for all the angles in the specified plane.
- ○ … describes geometry of a wire antenna (directions to which antenna wires are oriented).
- ○ … gives an information about polarization of the radiated wave.
- ◉ I won't answer this question

Question 4

Input impedance of the antenna …

Possible answers for question 4:
- ○ … is an impedance at the input of an antenna amplifier (if no amplifier is connected to the antenna, then the input impedance is zero).
- ○ … is an impedance, which can be measured on input terminals of the antenna.
- ○ … does not depend on the power radiated by the antenna.
- ◉ I won't answer this question

Question 5

Basis functions …

Question 6

Method of weighted residua …

Possible answers for question 6:

◎ … is used for minimizing the difference between the numeric solution of Maxwell equations and the exact field distribution.

◎ … is exploited for matching a wire antenna (minimizing residual reflections on a feeder).

◎ … is a special case of Galerkin method.

◉ I won't answer this question

Question 7

Impedance matrix in the moment analysis of the antenna …

Possible answers for question 7:

◎ … consists of input impedances of the antenna for different radii (rows) and different lengths (columns).

◎ … contains self-impedances of antenna segments on the diagonal and mutual impedances of segments out of the diagonal.

◎ … consists of input impedances for different time instants and different directions of arrival of the incident wave.

◉ I won't answer this question

Question 8

Sidelobes appear in the directivity pattern of the symmetric dipole if the antenna length …

Possible answers for question 8:

◎ … $l > 1.2\ \lambda$, λ denotes wavelength.

◎ … $0.6\ \lambda \leq l \leq 0.7\ \lambda$, λ denotes wavelength.

◎ … $l \leq 0.5\ \lambda$, λ denotes wavelength.

◉ I won't answer this question

Question 9

Input impedance of the symmetric dipole is purely real (the radius $a = 10^{-3}\ \lambda$ and λ denotes wavelength, the number of discretization segments $N = 33$) …

Possible answers for question 9:

◎ … for $l = 0.485\ \lambda$.

◎ … for $l = 0.462\ \lambda$.

◎ … for $l = 0.473\ \lambda$.

◉ I won't answer this question

Question 10

If the number of discretization segments in the moment analysis of a wire antenna is increased then …

- ○ … accuracy of results decreases.
- ○ … accuracy of results raises.
- ○ … accuracy of results is not influenced.
- ● I won't answer this question

see result