

## 7.1 Gaussian beam

### 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..5 of 5:

#### Question 1

Paraxial waves are characteristic by ...

Possible answers for question 1:

- ... the propagation exactly in parallel to the optical axis.
- ... a small angle between the optical axis and the normal to the wave form.
- ... are sensitive to frequencies and insensitive to polarizations of waves.
- I won't answer this question

#### Question 2

The Gaussian beam is called Gaussian ...

Possible answers for question 2:

- ... according to its inventor Gauss.
- ... because the intensity follow the Gaussian function in the direction of propagation.
- ... because the transversal intensity distribution of the basic mode is described by the Gaussian function.
- I won't answer this question

#### Question 3

In order to separate the real and the imaginary part of the complex amplitude ...

Possible answers for question 3:

- ... the real part of  $1/q(z)$  is expressed as a function of the wave form radius, and the imaginary one as a function of the beam width.
- ... the real part of  $1/q(z)$  is expressed as a function of the beam width, and the imaginary one as a function of the wave form radius.
- ... the method of the separation of variables has to be applied.
- I won't answer this question

#### Question 4

The Gaussian beam is uniquely defined by ...

Possible answers for question 4:

- ... the intensity, the power and the radius of the beam.
- ... the intensity, the polarization and the radius of the beam.
- ... the power and the polarization of the beam.
- I won't answer this question

#### Question 5

In the neck, the Gaussian beam ...

Possible answers for question 5:

- ... exhibits the minimum width and the equiphase surface is not uniquely defined.
- ... is of the minimum power.
- ... exhibits the minimum width and the planar equiphase surface.
- I won't answer this question

see result