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Microstructural Characterization of Materials

고유번호 _____ 이름 _____

1. 포항 방사광 가속기는 에너지가 2.5 GeV 인 제 3 세대 가속기로서 160 m 인 선형가속기와 둘레 280 m 의 저장링으로 되어있으며, 현재 재 4 세대 가속기로의 전환을 추진하고 있다. 제 4 세대 가속기로의 진화를 위해 변화되는 내용을 간단히 기술하여라. (3 점)

2. 다음 빈칸을 적절한 단어로 채우시오. (4 점)

1) Light is made up of ( ), but in macroscopic situations, it is often fine to treat it as a wave. Matter also exhibit ( ) properties. For an object of mass m, and velocity, v, the object has a wavelength, λ= ( ).

2) One can probe 'see' the fine details of matter by using ( ) such as ( ). → Can reveal the tiniest things!

3) The SEM produces images by probing the specimen with a focused ( ) beam that is scanned across a rectangular area of the specimen. At each point on the specimen the incident electron beam loses some energy, and that lost energy is converted into other forms, such as ( ), ( ), light emission (cathodoluminescence) or ( ). The display of the SEM maps the varying intensity of any of these signals into the image in a position corresponding to the position of the beam on the specimen when the signal was generated.

3. 다음 빈칸을 적절한 단어로 채우시오. (3 점)

1) 광학현미경 최대 배율은 약 ( ) 배로 light source 의 ( )에 의해 분해능 한계가 결정되며, ( )와 ( )의 곱으로 구하는 것이 가능하다.

2) The ( ) microscope uses two separate optical paths with two objectives and two eyepieces to provide slightly different viewing angles to the left and right eyes. In this way it produces a three-dimensional visualization of the sample being examined.

수업 제안사항 혹은 상담희망 여부:

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