IV. Optics

The image of the object. Basic concepts The construction of images in lenses Formula lenses 1 Image may be perceived or actual. If the image formed by the rays of the ie in this point comes the light energy it is valid if not by the rays and their sequels I say that the image of the imaginary light energy is not received at this point. 2 If the top and bottom of the image is oriented similarly to the subject of the image is straight. If the image is upside down it is called a reverse inverted. 3 the Image is acquired by the size reduced increased equal. Image in a plane mirror is virtual direct equal to the size of the object is at same distance behind the mirror on which the object is located in front of the mirror. The lens is a transparent body bounded on two sides by curved surfaces. There are six types of lenses. Collect 1 - 2 concave - PLANO-convex 3 - convex-concave. Scattering 4 - biconcave 5 - 6 PLANO-concave - concave-convex. Converging lens Diffusing lens Characteristics of lenses. NN - the main optical axis is a straight line passing through the centers of the spherical surfaces bounding the lens O optical center point from which a biconvex or biconcave with the same radii of surfaces of lenses located on the optical axis inside the lens at its center F - the main focus lens point and collect the light beam propagating parallel to the main optical axis OF focal length N'n' - axis side of the lens F' - side focus Focal plane - the plane passing through the main focus perpendicular to the main optical axis. The course of the rays in the lens. The beam going through the optical center of the lens About not experiencing refractive. The ray is parallel to the main optical axis after refraction passes through the focus F. the main The beam passing through the front focus F after refraction goes parallel to the main optical axis. The beam running parallel to a side of the optical axis N N' side goes through the focus F'. Formula lenses. When using the lens formula, it should correctly use the rule of signs +F - lens collecting -F - lens scattering +d - valid item -d - item imaginary +f - image of the object is valid -f - image of the object is imaginary. The value of focal length of the lens is called the optical power. Lateral magnification is the ratio of the linear size of the image to the linear size of the object. Modern optical devices use a lens system to improve image quality. The optical power system of lenses stacked together is equal to the sum of their optical powers. 1 - cornea 2 -

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