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ON A CERTAIN METHOD OF DETERMINING SHADOWS ON THE INNER SIDE OF THE CONICAL SURFACE AND ON THE CONCAVE SEMI-SPHERE IN THE PERSPECTIVE PROJECTION

The problem with determining the boundary line of the shadow on the surface of the cylinder, cone and sphere is solved on the basis of descriptive geometry by using methods of rectangular projection.

This paper proposes solutions in perspective projection for two issues concerning the shadow construction on the inner side of the conical surface and the semi-sphere in the parallel lighting.

Shadow construction on the inner side of the conical surface is based on the construction of intersection of the conical and cylindrical surfaces degenerated to two ellipses. The construction of the shadow inside the semi-sphere, presented in this paper, is based on angular relationships between the direction of light rays, the plane determined by the edge of the semi-sphere and the plane determined by the shade boundary of the sphere.