

The effect of magnetic fields on photoprocesses in organic solids

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A review is presented of the present status of research on the effect of magnetic fields on photoprocesses in organic solids. This effect is manifest in a change of the photoconductivity or luminescence of molecular crystals in weak magnetic fields at room temperatures ($\mu H \ll kT$). Magnetic effects on the photoconductivity, luminescence, and phototoxidation are considered and theoretically interpreted on the basis of an allowance for the change of the eigenfunctions of the interacting paramagnetic particles in the presence of the Zeeman effect.

The Doppler method of measuring local velocities using lasers

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The article reviews research on a new optical method, based on the Doppler effect, of investigating flows of liquid and gases. The connection between the statistical characteristics of the photocurrent and the statistical characteristics of a stream containing light-scattering particles is discussed. Methods are considered for the separation of the Doppler frequency shift, which contains information on the local flow velocity, viz., photomixing, direct photodetection, and optical spectral analysis. The most frequently employed systems of Doppler optical velocity meters are described for laminar and turbulent flows of liquid and gases, at both subsonic and supersonic velocities.

ANNOUNCEMENT

The Review of Particle Properties will appear this year in Physics Letters B, Volume 50, No. 1 appearing in April.