determine quantitatively the band structure of ferromagnetic nickel in the vicinity of the L-point. Some corroboration of the proposed identification may be the fact that the derivative of the interband density with respect to the frequency does not become infinite only for the A edge, and consequently only the 0.7 eV anomaly could not be observed by the thermoreflection method [3].

It should be noted that the proposed identification is more reliable for the subband of left-hand spins, and in the ↑ subband it is possible, in principle, to retain also the direct order of the levels, which readily explains at the same time the negative polarization of the s-p electrons.

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MEASUREMENT OF NEUTRAL HYDROGEN ATOM CONCENTRATION IN THE PLASMA PINCH IN THE TOKAMAK TM-3 MACHINE

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In toroidal machines of the Tokamak type, the interaction between the plasma particles and the walls of the vacuum chamber and the diaphragm leads to the influx of neutral gas sorbed by the walls into the plasma pinch. This can lead to plasma cooling by charge exchange of the hot hydrogen atoms. To estimate the energy carried away by the charge-exchanging hydrogen ions, it is necessary to know the concentration of the neutral hydrogen atoms in the plasma pinch. The concentration of the neutral atoms in the plasma pinch can be determined by measuring the absolute intensities of the individual spectral lines, on the basis of a number of theoretical considerations, provided the temperature and density of the electrons are known together with the level population for the given spectral line. Calculations of this type, with allowance for multistep processes, were performed for hydrogen and hydrogenlike atoms in [1, 2], but for low values of the electron temperatures. Similar calculations for the electron temperature and density intervals prevailing in Tokamak machines were performed by V. A. Abramov, V. I. Kogan, and E. I. Kuznetsov. Using these data, we can calculate the concentration of the neutral atoms by measuring the intensities of the H_α and H_β lines.