

**THE PROPERTIES OF CHARGED CONDENSED
MATTER IN THE HARD RADIATION FIELD
OF ACTIVE GALAXY NUCLEI.**

**II. MACROSCOPIC INTERSTELLAR DUSTY
PLASMA PARAMETERS: CONDUCTIVITY (σ),
VISCOSITY (η), COMPRESSIBILITY (γ)**

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We received a macroscopic coefficients of dusty low-temperature plasma in a hard radiation field for the periphery of active galactic nuclei (AGN). The spectroscopic properties for the monodisperse dust size distribution is taken into account. It was found that, in the AGN periphery, with the interstellar positively charged dust particles has a significant effect on the plasma's thermodynamic parameters. It was received that an degree of dustiness of a plasma changes its compressibility (γ), conductivity (σ), heat capacity, shear (ξ) and bulk viscosity (η). The electronic energy distribution function has the Maxwellian (thermal) maximum and the high-energy one caused by Auger electrons. We showed the modulation and generation of acoustic oscillations of a low-temperature plasma with dust – “dust sound” is considered for peripheral AGN areas. We investigated the effects shown by the propagation of this type waves. The influence of charged dust on the course of collective processes of a turbulent nature are considered. Therefore, the part of the energy transfer from the central regions of the AGN to its periphery in form of the MGD-waves is considered. It is indicated that the maintenance and generation of a local magnetic field occurring in local vortex type turbulent structures largely depends on the total charge of the dust component. On the basis of which the statement was confirmed that local turbulent vortices with a magnetic field and charged dust effectively scatter cosmic rays with energies up to 3 GeV presented in [Lazarian, Yan]. We have shown that almost the entire perimeter of AGN converts cosmic rays directed along the tubes of the average galactic magnetic flux into their diffusely chaotic component. This makes it possible to transport and convert of the energy of galactic cosmic rays into radiation component observed in all spectral intervals available to satellites.

**ON THE EVOLUTIONARY STATUS OF
CHEMICALLY-PECULIAR STARS IN THE UPPER
PART OF THE MAIN SEQUENCE**

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A scenario of the origin of the stars in the upper part of the main sequence is proposed, the evolutionary status of which has not been determined for a long time.

**THE EMISSION-LINE DUSTY OBJECT
IRAS 07080+0605, A LESS-EVOLVED EXAMPLE
OF THE RED RECTANGLE**

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The all-sky survey conducted by the InfraRed Astronomical Satellite (IRAS) in the 1980's discovered many objects with infrared excesses whose nature has not been explored until recently. IRAS 07080+0605 is one of those identified with an early-type star in the optical wavelength range. It shows the B[e] phenomenon, which is defined by the presence of spectral line emission, including forbidden lines, coming from circumstellar gas and a large infrared excess due to processing of the stellar radiation by circumstellar dust. IRAS 07080+0605 is a very puzzling object because of one of the strongest infrared excesses associated with one of the lowest surface temperatures (8000-9000K) among objects with the B[e] phenomenon, a combination of spectral features of dwarfs and supergiants, and the absence of a surrounding optical nebula. Our photometric and spectroscopic study shows that the object properties are similar to those of the famous Red