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Peculiarity of Positron Annihilation on Atoms and Particles of Dust Space Plasma of Galactic Center VIKTOR I. GRAFUTIN, TAT'YANE L. RAZINKOVA, Federal State Unitary Enterprise, EUGENE P. PROKOP'EV, Federal State Unitary Enterprise and Moscow Institute of Electronic Technology, A.I. ALIKHANOV, Institute for Theoretical and Experimental Physics — Research of properties of positron states has great importance in a modern science and technology. Therefore last years intensive development of positronics of various substances and their states is observed. The special role is represented with researches in the field of space positronics. It is process positron annihilation in the dust space plasma on the basis of our calculations and data analysed. It is shown that formation of positronium atom in dust space plasma with the large concentration of the charged particles of a dust can occur as by means of processes of interaction of positrons to atoms H and free electrons and processes of interaction of positrons with the charged particles of dust space plasma. In such space plasma the output of positronium atom about what speak experimental data of space laboratory Integral is possible practically 100 %. Proceeding from sizes of diffusion coefficient the sizes of particles of a dust particles in space plasma exceeds size of the order 100 of nanometer. The size of particles is comparable to length of diffusion of positrons, i.e. $0,1 \div 1$ microns. These received sizes of particles well coincide with data of optical observations.

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