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## The First Lower Hybrid Current Drive Experiments in the Spherical Tokamak Globus-M

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The development of quasi-stationary methods of non-inductive current drive in plasmas of spherical tokamaks is extremely important for their using in thermonuclear devices. Specific properties of spherical tokamaks provide the possibilities the current drive by the waves of intermediate frequency range slowed down in poloidal direction. This approach, developed theoretically in the Ioffe Physical-technical institute and described in [1], is used now in LHCD experiments on the low aspect ratio tokamak Globus-M ( $R=0.36$  m,  $a_0=0.24$  m,  $B_0=0.4$  T,  $I_p=0.2$  MA, elongation  $-1.8$ , triangularity  $-(0.4-0.5)$ ,  $n_0 = (3-5) \cdot 10^{19} \text{m}^{-3}$ ,  $n_b=1 \cdot 10^{17} \text{m}^{-3}$ ,  $T_e=400-800$  eV). The grill consists of 10 waveguides with inner cross-section  $90 \times 10 \text{mm}$ . The waveguides are oriented so that the electric RF fields on the fundamental waveguide mode TE<sub>10</sub> were co-directed with poloidal direction in the tokamak. Numerical simulation confirms the quite good efficiency of current drive. The first experimental results are presented for input power level of 100 kW (2.45 GHz). The value of generated current is estimated by the drop of loop voltage as 20-40 kA.

[1] E.Z. GUSAKOV, V.V.DYACHENKO et al. PPCF, 52, (2010), 075018

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