

The proposed gas-discharge submillimeter wave laser with external electrodes contains two external electrodes arranged in line with the axis of a gas-discharge tube. The electrodes are connected to a low-frequency current pumping source. Between the electrodes and the internal surface of the gas-discharge tube, interspace is provided, which is filled with liquid electrolyte. The electrolyte circulates in a circuit with an expansion tank and a cooler. Evaporation of the electrolyte provides the equalization of current density within the length of each electrode and the possibility to increase the length and uniformity of the gas discharge, and as a result, improve the efficiency of the laser.