Question #43880, Physics, Other

if we leave the flying helicopter in steady state in sky for 3 days then does it will shift from its position or not ?give reason

Rod air from moving blades counterbalances the weight of the helicopter. In the horizontal direction there are no forces that would counteract the winds. According to the helicopter hovering in the air moves in a horizontal direction with air masses. Atmosphere, which moves along with the helicopter rotates with the Earth. But the speed of rotation of the air is not equal to the speed of rotation of the Earth. Rotational speed of air depends on many factors. Such as air speed gains due to viscous friction of the Earth less. And the velocity decreases with distance from the Earth's surface, with a maximum value at the surface. Another factor - different temperature in geographically different locations. This causes winds to which it is difficult to determine the relationship between the rotational speed of the Earth and wind speed. So on average the helicopter moves in the opposite direction from the direction of motion of the Earth. (Assuming that the winds will shift during this time the helicopter on the same distance in all directions). But thanks to the winds, the helicopter can be displaced and otherwise.