

CELESTIAL MECHANICS

CHAPTER 10: GRAVITATION

GRAVITATION

GRAVITATION

Newton's law of universal gravitation states that every particle attracts every other particle in the universe with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between their centers. This force is called the gravitational force.

The gravitational force between two objects is given by the equation $F = G \frac{m_1 m_2}{r^2}$, where F is the gravitational force, G is the gravitational constant, m_1 and m_2 are the masses of the two objects, and r is the distance between their centers. This force is attractive and acts along the line connecting the centers of the two objects.

GRAVITATION

The gravitational force between two objects is given by the equation $F = G \frac{m_1 m_2}{r^2}$, where F is the gravitational force, G is the gravitational constant, m_1 and m_2 are the masses of the two objects, and r is the distance between their centers. This force is attractive and acts along the line connecting the centers of the two objects.