The flux distribution of meteoroid stream in near earth space

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Meteoroid stream is particles moving along the orbit around the Sun. When they enter the area of the earth gravity field, the speed, number density and space flux of the particles can change at the different position in the gravity field. In the late 17th century, Schiaparelli (1871) proposed the theory of the flux distribution of meteoroid stream. But his theory is mainly applicable to estimate the change of speed and flux of meteoroid stream when they enter the atmosphere. Now, in the era of space navigation, spacecraft move above the earth in the range from several 10 thousand kilometers to several 100 thousand kilometers, they may be impacted by meteoroids at any point in the wide space. Due to the above reason, we process the Schiaparelli theory over again, extend his theory to be applicable in near earth space, and find in a certain area, the flux of meteoroid stream can increase several 10 times and even more to form a local meteor storm.