

Comparison of data format for Low Earth Orbiting satellites

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STSAT (Science Technology SATellite)-2 program is on progress. Another small satellite was launched and it is on-orbit operation. Those satellites are designed to operate in low altitude orbits and to use similar S-band frequencies. But the uplink/downlink speed, protocol and frame format for satellite data are different. STSAT-2 uses RFC-1055 communication protocol whereas another small satellite protocol follows the CCSDS (Consultative Committee for Space Data Systems) recommendation. Since the uplink and downlink data rate for STSAT-2 is lower than the one of another small satellite, the data size of STSAT-2 is limited comparing the one of another small satellite. In this paper, data formats for two low-orbit satellites are compared. The advantages and disadvantages of each data format will be discussed. And then we propose a way to overcome the weakness of each data format for satellite communications.