

Tabel.1

The average improved ratio of the total weight between PSDOWA and FIFO

Channel Number	2	4	6	8
Improved Ratio(%)	45.11	17.15	7.61	5.80

When the number of channels is increasing, the improved ratio of total weight is decreasing but PSDOWA is still take advantage.

It shows that the total weight is more than FIFO in PSDOWA. In the case of the high occupancy rate of ISLs, PSDOWA can ensure the transmission of important communication services.

2) The total numbers of transmitted packets: Fig.2 shows the changes of total transmitted numbers of packets in 2,4,6 and 8 channels in ISLs. Fig.4 shows that in PSDOWA, the total numbers rises in 5% more that FIFO schedule mechanism. The results show that more packets are transmitted in PSDOWA thus the utilization of the link has been improved.

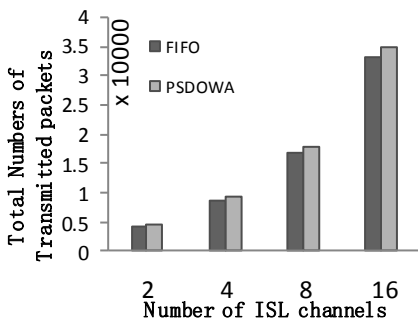


Fig.2 The number of total transmitted packets

5. Conclusion

In this paper, we proposed a packet scheduling distributed online weighted algorithm on inter-satellite links (PSDOWA). The algorithm gives the appropriate weight to each packet into the satellite buffer with their type of services and number of hops. Fully considering the limitation of satellite communications

system load, we designed distributed computing and online algorithms to improve the scheduling mechanism. The simulation results shows that the weight of transmitted packets improved 5.8%-45.11% and the number of packets improved 5% in different bandwidth of ISLs under PSDOWA.

6. References

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