Pros:

Flexibility

Customization

Protocol Evaluations

Real-World Dynamics

Scalability

Protocol Implementation

Realistic Orbits

Propagation Effects

Link Budget Analysis

Cons:

Abstraction

Computational Intensity

Learning Curve

Limited Scale

Cost

Complexity

Limited Network Aspects

Computational Complexity

Specialized Focus

Handley, Mark. "Delay is not an option: Low latency routing in space." *Proceedings of the 17th ACM Workshop on Hot Topics in Networks*. 2018.

Giuliari, Giacomo, et al. "Internet backbones in space." *ACM SIGCOMM Computer Communication Review* 50.1 (2020): 25-37.

Handley, Mark. "Using ground relays for low-latency wide-area routing in megaconstellations." *Proceedings of the 18th ACM Workshop on Hot Topics in Networks*. 2019.

Wu, Yipeng, Zhihua Yang, and Qinyu Zhang. "A novel DTN routing algorithm in the GEO-relaying satellite network." *2015 11th International Conference on Mobile Ad-hoc and Sensor Networks (MSN)*. IEEE, 2015.

Ekici, Eylem, Ian F. Akyildiz, and Michael D. Bender. "Datagram routing algorithm for LEO satellite networks." *Proceedings IEEE INFOCOM 2000. Conference on Computer Communications. Nineteenth Annual Joint Conference of the IEEE Computer and Communications Societies (Cat. No. 00CH37064)*. Vol. 2. IEEE, 2000.