

The paper by Jiang et al. provides a report on usage of a decentralized blockchain based dynamic spectrum method. The authors aim to minimize the sum transmit power at all multiple mobile virtual network operators while satisfying the average data transmission rate thresholds. I believe the two key results are as follows: 1. The authors theoretically derive the semi-closed-form solution to the actual required sum transmit power minimization problem subject to data transmission rate constraints. 2. The authors' scheme achieves almost the same minimum sum power as the non-causal scheme which assumes the number of active MUs in all cells and all the channels are known non-causally for the optimal dynamic spectrum allocation.

The paper is timely, well written, and of interest to readers in a variety of disciplines. I recommend publication of the manuscript provided the authors can address the following comments. Some of the comments are major issues regarding the set up and practicality of the proposed methods.

1. The authors suggest using blockchain for their data computation. In general blockchain is a distributed data base and it is not used for that purpose. They need to justify their proposal. They provided a mathematical derivation for the feasibility of the blockchain usage but not for its purpose. Also blockchain is computationally expensive. They are also really power demanding. Authors need to address these issues for their scheme when they want to compare it to the current methods. This may change their findings completely.

2. In the system model, authors mentioned the MVNOs should predict the required spectrum to provide. This is in general a hard problem. There are many papers addressing this topic and many start up companies started their business based on this. This needs to be addressed. It is not also clear the suggestion of Poisson point process is for spectrum availability or demand and what is the motivation for this.

3. I suggest the authors compare the findings in figure 1 clearly. Why the performance is so different for different numbers of MVNO. The explanation is not clear and comprehensive.

4. The authors need to show the simulation setup used for figure 3 and 4 clearly so the results can be produced for reader to compare their method. Some terms are not explained clearly for their comparison.

5. The authors have used blockchain for their method; but they did not measure the performance compared to other conventional methods.