REFEREE REPORT
Filip Filipi, Cykly translací v souvislých cyklech

A permutation $f \in S_n$ has a regular cycle if it contains a cycle of length $|f|$. A quandle is a groupoid Q in which every left translation L_x fixes x and is an automorphism of Q. A quandle is connected if $\mathrm{LMlt}(Q) = \langle L_x : x \in Q \rangle$ acts transitively on Q. Since $\mathrm{Aut}(Q)$ acts transitively on a finite connected quandle Q, the cycle structure of every left translation of Q is the same. A surprising conjecture of Hayashi states that *every left translation of a finite connected quandle has a regular cycle.*

Hayashi's conjecture has been verified in small connected quandles and some other classes of connected quandles. But it remains wide open in general and is of substantial interest. In this bachelor thesis, the author builds upon unpublished notes of the thesis advisor to show that certain connected *conjugacy* quandles satisfy Hayashi's conjecture, namely the conjugacy quandles e^G with $G \in \{A_n, S_n, D_{2n}\}$ and $e \in G$. (Note that not all such quandles are connected, so the conjecture is proved to hold whenever applicable.) The result for S_n is in the unpublished notes. The results for A_n and D_{2n} are new as far as I can tell.

I have only a few minor comments:

- The word "svedeme" is used frequently to mean "jsme schopni." It strikes me as somewhat colloquial.

- Věta 2.7 follows from the fact that $\mathrm{Aut}(Q)$ acts transitively on Q.

- In the literature, a conjugacy quandle is usually defined as any quandle defined by conjugation on the union of *some* conjugacy classes of G, not on a single conjugacy class of G. It's OK to keep the present terminology but it would be useful to remark that other definitions exist.

- Definice 3.13 is confusing since at its core is the usage of two different types of arrows. This is not apparent from the definition and the usage of two types of arrows comes across as a typo at first reading.

Overall, I recommend to accept the work as a bachelor thesis. It contains original results that might be publishable in a research journal. All necessary background material is presented in a compact and efficient manner. The rather detailed arguments for the individual groups are also well done.

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