Opponent's report on the Habilitation Thesis of Premysl Jedlicka

In the thesis of Premysl Jedlicka was proved the following fundamental results in the theory of commutative automorphic loops (CAL):

1. every finite CAL $L = L_1 \times L_0$, where $|L_1|$ is odd and $|L_0| = 2^k$;
2. if $H \subseteq L$ is a subloop then $\frac{|L|}{|H|} \in \mathbf{Z}$, (Lagrange's Theorem);
3. if p is prime and $|L|/p \in \mathbf{Z}$, then there exists a subloop L_p ($p-$Sylow subloop), such that $|L_p| = p^t$, $(p, \frac{|L|}{|L_p|}) = 1$;
4. if $|L|$ is odd then L is solvable;
5. if p is odd and $|L| = |L_p| = p^t$, then L is nilpotent,
6. if L is simple then $L = L_2$ is 2-loop.

All those results are very interesting, non-trivial and new. I think that Premysl Jedlicka have to be appointed as an associate professor.

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