I wonder if the slashing conditions could be flawed inpaper v4?

Here is the demonstration(which is a modification of figure 3 in the paper):

[

casper_ffg_conflicting

849×1001 45.5 KB

](https://ethresear.ch/uploads/default/original/2X/b/bb57023bf62473ffeced2efe6d7e4c53f736c4aa.png)

In the figure the purple arcs are supermajority links. a_1, a_2, a_3, b_4, b_5

are justified, and in which a_2, b_4

are finalized while you can see that a_2

and b_4

are conflicting. Less than 1/3 validators violate the slashing conditions.

In the proof of Theorem 1 we didn’t consider the edge case that chain {a_i}

can overlap the chain {b_i}

.

To be more specific, In the proof, "We know that no h(b_i)

equals either h(a_m)

or h(a_{m+1})

"

is not true when b_i

is a_m

or a_{m+1}

. So in the proof, b_{j-1}

can be a_{m+1}

or a_m

(in the figure above, take m=2, j=4

, then b_3=b_{j-1}=a_{m+1}=a_3

)

Maybe we should add slashing condition that the source and target of a vote are conflicting?

I would like to beg your pardon and please correct my errors if my understanding is wrong.