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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "On the stability interpretation of Extended Column Test results" *by* Frank Techel et al.

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General comments. In this manuscript the authors present a new stability interpenetration scheme for the Extended Column Test. The test is commonly used among observers associated with forecasting services, as well as back-county recreationalist. This work addresses a relevant and important topic within operational avalanche forecasting. The findings can be of interest for avalanche forecasting services worldwide. I found it well written and structured, generally very clear and correct language. Figures are of good quality. I recommend publishing the manuscript. I only have minor suggestions on how to improve the paper.

Specific comments p1 l21 what about the risk involved? p1 l22

what about the radar on skies initiative. Could you comment on that https://sknow.ski/?fbclid=IwAR180DSVe2nRwPwOfDM6b73niDjzB4uLgbTk6i3c3Smn2H_ZC p4 l99: consider adding fatal skier-triggered avalanches. p14 l345-358 is there a difference in test performance dependent on weak layer properties (grain type, grain size, weak layer thickness). you probably have this data from the test sites. It could also be interesting if you related it to forecasted avalanche problem. p4 l102-105: what if the overlaying snow is harder than lets say 1F. Does that have an impact? not theme of this paper, but still.. p17 5.4-5.5 consider also relating it to avalanche problems which have become an important part of avalanche forecasting. What when you have low probability and high consequence. i.e. deep persistent weak layer. Another challenge is that on a day of back-country touring you will probably seek the most stable conditions whereas observers will seek the most unstable areas to perform their tests. Especially in situations where you don't have any signs of instability this can possibly bias you slope stability classification in addition to the other sources of error you included. You have not addressed vertical vs lateral tapping and the energy absorption due to deformation of the upper snow layers above the weak layer. https://arc.lib.montana.edu/snow-science/item/2673

Technical corrections: p1 l2: consider changing into to in p2 l33: consider changing to improve with improving p2 l50: remove comma after Both p3 l72: insert The test procedure p4 l104: remove comma after (2014) p5 l116: remove comma after stable p5 l117: consider changing relates to relate p6 l145: change were to was p6 l154: consider changing its with it's p7 l177: add The probability P9 l218: consider removing comma after slopes p9 l226: consider changing was to were p9 l233: consider adding proportion of p10 l242: consider adding Regardless of p10 figure text: consecutive numbers p16 l376: consider adding one or two commas , in fact, p18 l420: consider removing comma instability, p18 l439: consider changing make to makes p18 l440: consider removing in p18 l445: consider changing in addition to Also p19 l449: consider changing are best to is best p19 l457: change for to of

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