

Interactive comment on “Saharan dust events in the European Alps: role on snowmelt and geochemical characterization” by Biagio Di Mauro et al.

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My recommendation: Major revisions due to general and specific comments listed in the attached file.

The authors investigate the input of mineral dust (MD) on the geochemistry as well as the impact on snowmelt in the Aosta Valley, Italy at 2160m a.s.l. within the accumulation periods 2013/14, 2014/15 and 2015/16. The study investigate the evolution of snow melt off via in-situ observations, digital images, AWS data and modelling. Besides the investigation of a snow darkening index representative for MD on the snow surface, a geochemical characterization from MD affected and non-affected snow was

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presented as well. Authors observed a shortening of the snow season, concluding that MD accelerate snow melt-out dates.

The addressed topic is of highly interest for the Cryosphere community, but also for the climate modelling (e.g. surface albedo feedback) and remote sensing community (e.g. validation and calibration of satellite images).

Please also note the supplement to this comment:

<https://www.the-cryosphere-discuss.net/tc-2018-241/tc-2018-241-RC2-supplement.pdf>

Interactive comment on The Cryosphere Discuss., <https://doi.org/10.5194/tc-2018-241>, 2018.

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