SURFEX CEN 2016-2017

1- Technical developments to be merged in V8.1.

Development	Branche	Status	Priority[1]
New snow netcdf outputs and diagnostics with snow layer dimension	Included in lafaysse_fromv8trunk (M. Lafaysse)	To be merged in V8.1	**1**

[1] *Priority: ranging from 1 (High) to 3 (Low)*

2- Scientific developments integrated in Crocus stable development branch derived from trunk V8 (lafaysse_fromv8trunk)

Development	Branche	Status	Priority[1]
SYTRON blowing snow scheme	Included in lafaysse_fromv8trunk (V. Vionnet)	To be merged in next official SURFEX version	1
Multi-physical simulations for Crocus	Included in lafaysse_fromv8trunk (B. Cluzet, M. Lafaysse)	To be merged in next official SURFEX version	1
Implementation of new sets of physical properties for falling snow	Included in lafaysse_fromv8trunk (V. Vionnet)	To be merged in next official SURFEX version	1
MEB-Crocus coupling	Included in lafaysse_fromv8trunk (M. Lafaysse)	To be tested and evaluated in 2017 And then merged in official SURFEX version	2

[1] *Priority: ranging from 1 (High) to 3 (Low)*

3- Scientific developments implemented or under implementation and not yet integrated in Crocus stable development branch (lafaysse_fromv8trunk)

Development	Branche	Status	Priority[1]
Radiative transfer scheme ATMOTARTES for the atmosphere and prognostic snow impurity content (no scavenging)	Developed in a branch derived from lafaysse_fromv8trunk (M. Dumont, F. Tuzet)	To be merged in lafaysse_fromv8trunk and then in official SURFEX version	1
Crocus-resort : include grooming effect and artificial snow production	Developed in a branch derived from lafaysse_fromv8trunk (P. Spandre)	To be merged in lafaysse_fromv8trunk and then in official SURFEX version	1
Implementation of the snow mechanical stability analysis scheme MEPRA in SURFEX	Under development in a branch derived from lafaysse_fromv8trunk (P. Hagenmuller)	To be continued (2017)	1
Implementation of a numerical representation of icing events in Crocus	Developed in a branch derived from V8Lafaysse (prior to V8) (L. Quéno, V. Vionnet)	To be merged in lafaysse_fromv8trunk and then in official SURFEX version	2

Implementation of the blowing snow scheme Meso-NH/Crocus (surface component)	Developed in a branch prior to V8 (V. Vionnet)	To be merged in >V8 Coordination with Meso-NH	2
Implementation of Richard equation for liquid water percolation in Crocus	Under development in a branch prior V8 (C. d'Amboise, S. Morin)	To be finalized and to be merged in >v8	3
Adaptation of Crocus to Dome C snow conditions	Developed in branch prior to V8 (Q. Libois, S. Morin)	To be merged in lafaysse_fromv8trunk and then in official SURFEX version	3

[1] *Priority: ranging from 1 (High) to 3 (Low)*