Innovative model settings based on results of PT TERRA Nova and PT AEVUS, and on feedback from DWD colleagues (status 18.12.2019, requires COSMO 5.06a and INT2LM 2.06).

EXTPAR

- Make sure that required fields for the chosen configuration are present!

INT2LM

- lemiss=.TRUE.
- lstomata=.TRUE.
- itype_rootdp=4
- itype_albedo=3
- lforest=.TRUE.
- lskinc=.TRUE.
- yvarini : add 'SKC'
- itype_ndvi=1
- itype_aerosol=1

COSMO

- lemiss=true (use external surface emissivity map)
- lstomata=true (use external minimum stomata resistance map)
- itype_root=2 (exponential root profile, reaches deeper)
- itype_evsl=4 (improved bare soil evaporation; calculation of bare soil evaporation using a resistance formulation; for a review see Schulz et al. 1998)
- itype_heatcond=3 (heat conductivity depends on soil water content)
- itype_albedo=3 (background albedo from external parameters)
- lforest=true (snow albedo depending on type of forest)
- itype_canopy=2 (skin layer temperature, to simulate vegetation canopy effect)
- cimpl=150.0 (Stability parameter for the computation of the skin temperature)
- cskinc=-1.0 (use external parameter field SKC for skin conductivity)
- cwimax_ml = 0.0005 (Interception reservoir activated)
- itype_aerosol=1 (Tanre)

Note 1: consider *model calibration* if this setting is used (use e.g. CALMO methodology).

Note 2: Ritter-Geleyn radiation, Tanre aerosols (too thick), clouds (too thin) are well tuned → changing itype_aerosol should only be considered when using a new cloud-radiation scheme (e.g. from T2(RC)2)

Note 3: also consider the following COSMO developments, which should become available in COSMO v6.0: new multi-layers snow model, new urban model, new soil hydrology.