Model call record

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06 December, 2021

Calculates emission.

Check package version.

```
packageVersion('ALFAM2')
```

```
## [1] '1.5.1'
```

Parameter values.

```
ALFAM2pars02
```

```
##            int.f0    app.mthd.os.f0    app.rate.ni.f0         man.dm.f0
##       -0.60568338       -1.74351499       -0.01114900        0.39967070
## man.source.pig.f0    app.mthd.cs.f0            int.r1    app.mthd.bc.r1
##       -0.59202858       -7.63373787       -0.93921516        0.79352480
##         man.dm.r1       air.temp.r1        wind.2m.r1    app.mthd.ts.r1
##       -0.13988189        0.07354268        0.15026720       -0.45907135
## ts.cereal.hght.r1         man.ph.r1            int.r2      rain.rate.r2
##       -0.24471238        0.66500000       -1.79918546        0.39402156
##            int.r3    app.mthd.bc.r3    app.mthd.cs.r3         man.ph.r3
##       -3.22841225        0.56153956       -0.66647417        0.23800000
## incorp.shallow.f4 incorp.shallow.r3    incorp.deep.f4    incorp.deep.r3
##       -0.96496655       -0.58052689       -3.69494954       -1.26569562
```

Run model

With set 2 parameters

```
pred.raw <- ALFAM2mod(datraw, pars = ALFAM2pars02, app.name = 'tan.app', time.name = 'duration',
                  group = 'id', warn = TRUE, prep = TRUE)
```

```
## User-supplied parameters are being used.
```

```
## Warning in ALFAM2mod(datraw, pars = ALFAM2pars02, app.name = "tan.app", : Running with 10 parameters. Dropped 14 with no match.
## These secondary parameters have been dropped:
##   app.mthd.os.f0
##   app.rate.ni.f0
##   app.mthd.cs.f0
##   air.temp.r1
##   app.mthd.ts.r1
##   ts.cereal.hght.r1
##   man.ph.r1
##   rain.rate.r2
##   app.mthd.cs.r3
##   man.ph.r3
##   incorp.shallow.f4
##   incorp.shallow.r3
##   incorp.deep.f4
##   incorp.deep.r3
##
## These secondary parameters are being used:
##   int.f0
##   man.dm.f0
##   man.source.pig.f0
##   int.r1
##   app.mthd.bc.r1
##   man.dm.r1
##   wind.2m.r1
##   int.r2
##   int.r3
##   app.mthd.bc.r3
```

```
pred.sep <- ALFAM2mod(datsep, pars = ALFAM2pars02, app.name = 'tan.app', time.name = 'duration',
                  group = 'id', warn = TRUE, prep = TRUE)
```

```
## User-supplied parameters are being used.
```

```
## Warning in ALFAM2mod(datsep, pars = ALFAM2pars02, app.name = "tan.app", : Running with 10 parameters. Dropped 14 with no match.
## These secondary parameters have been dropped:
##   app.mthd.os.f0
##   app.rate.ni.f0
##   app.mthd.cs.f0
```

```
##   air.temp.r1
##   app.mthd.ts.r1
##   ts.cereal.hght.r1
##   man.ph.r1
##   rain.rate.r2
##   app.mthd.cs.r3
##   man.ph.r3
##   incorp.shallow.f4
##   incorp.shallow.r3
##   incorp.deep.f4
##   incorp.deep.r3
##
## These secondary parameters are being used:
##   int.f0
##   man.dm.f0
##   man.source.pig.f0
##   int.r1
##   app.mthd.bc.r1
##   man.dm.r1
##   wind.2m.r1
##   int.r2
##   int.r3
##   app.mthd.bc.r3
```

```
head(pred.raw)
```

```
##   app.mthd.bc man.source.pig id  ct  dt        f0         r1         r2
## 1           0              0  1  70  70 0.6441285 0.01749569 0.01587869
## 2           0              0  2  48  48 0.3261644 0.05064555 0.01587869
## 3           1              0  3 264 264 0.4289964 0.22090017 0.01587869
## 4           1              0  4 264 264 0.4685221 0.19419734 0.01587869
## 5           1              0  5 264 264 0.4486782 0.20711887 0.01587869
## 6           1              0  6 264 264 0.3530445 0.28582588 0.01587869
##             r3 f4            f        s         j        e    e.int        er
## 1 0.0005910004  1 4.141834e+00 40.60648 0.3107384 21.75169 21.75169 0.3270930
## 2 0.0005910004  1 9.638197e-01 52.42450 0.3877433 18.61168 18.61168 0.2584956
## 3 0.0021534129  1 3.970228e-26 44.17985 0.3250763 85.82015 85.82015 0.6601550
## 4 0.0021534129  1 4.796688e-23 40.09576 0.3208494 84.70424 84.70424 0.6787198
## 5 0.0021534129  1 1.456297e-24 39.63000 0.3040530 80.27000 80.27000 0.6694746
## 6 0.0021534129  1 1.039847e-33 43.35706 0.2713748 71.64294 71.64294 0.6229821
```

```r
head(pred.sep)
```

```
##   app.mthd.bc man.source.pig id  ct  dt         f0         r1         r2
## 1           0              0  1  70  70 0.23771965 0.07217909 0.01587869
## 2           0              0  2  48  48 0.20341952 0.08479150 0.01587869
## 3           1              0  3 264 264 0.13185801 0.80116800 0.01587869
## 4           1              0  4 264 264 0.10674474 0.97196970 0.01587869
## 5           1              0  5 264 264 0.07697784 1.29881239 0.01587869
## 6           1              0  6 264 264 0.13185801 0.80116800 0.01587869
##             r3 f4             f        s         j        e    e.int        er
## 1 0.0005910004  1  3.500683e-02 54.08928 0.2267959 15.87571 15.87571 0.2267959
## 2 0.0005910004  1  1.102344e-01 54.76825 0.2733649 13.12151 13.12151 0.1929634
## 3 0.0021534129  1  3.990328e-93 71.01332 0.2764647 72.98668 72.98668 0.5068519
## 4 0.0021534129  1 8.120727e-113 70.25499 0.2588826 68.34501 68.34501 0.4931097
## 5 0.0021534129  1 1.887835e-150 69.59930 0.2401542 63.40070 63.40070 0.4766970
## 6 0.0021534129  1  3.092504e-93 55.03533 0.2142601 56.56467 56.56467 0.5068519
```

Add results to main df

```r
dat$emis.raw.pred <- 100 * pred.raw$er
dat$emis.sep.pred <- 100 * pred.sep$er
```