Completo21/Output file fort.1

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< Completo21

fort.1: Time evolution

1. time step number iloop
2. time/years temps/an
3. number of layers n_frontieres
4. core mass masse(1)/mearth
5. total mass masse(n_frontieres)/mearth
6. core radius / RJ X(1)/RJ
7. total radius / RJ X(nvar*(n_frontieres-1)+1)/RJ
8. core radius / Rearth X(1)/Rearth
9. total radius / Rearth at tau=0.01 (usually) X(nvar*(n_frontieres-1)+1)/Rearth
10. core luminosity / LJ X(2)/LJ
11. total luminosity / LJ X(nvar*(n_frontieres-1)+2)/LJ
12. total luminosity / Lsun X(nvar*(n_frontieres-1)+2)/Lsun
13. pressure at envelope core boundary / bar X(3)/1D6
14. surface pressure /bar (at tau=0.01 usually) X(nvar*(n_frontieres-1)+3)/1D6
15. temperature at core envelope boundary temperature K X(4)
16. surface temperature (at tau=0.01 usually) K X(nvar*(n_frontieres-1)+4)
17. Kelvin Helmholtz timescale TKH/an
18. timestep / year dt/an
19. total energy Etot
20. total energy Etot2
21. kenerg
22. kenerg2
23. lumi correction factor corrLesti
24. energy correction factor not used corrEesti
25. actual luminosity from energy differences Lactual/LJ from contraction
26. mean core density rhocore
27. radiogenic core luminosity Lradio/LJ
28. entropy at core - envelope interface kb / baryon entro(1)
29. entropy at top of atmosphere kb / baryon entro(n_frontieres)
30. envelope luminosity from TdS / LJ lumitds(n_frontieres)/LJ
31. total D burning luminosity Lburnoldtot/LJ
32. D burning timescale tauburn/an
33. Mixing timescale taumix/an
34. Number of eddies in planet edNumber
35. deuterium mass fraction at bottom xDeu(1)
36. X(nvar*(n_frontieres-1)+5) tau at outer boundary
37. masse23/mearth Mass at tau=2/3
38. radius23/RJ Radius at tau=2/3
39. radius23/Rearth Radius at tau=2/3
40. Mdotevap/Mearth*an envelope evaporation rate
41. envstatus envelope status flag
42. X(5) optical depth at core-envelope boundary
43. rho(1) gas density at core-env [g/cm**3]
44. rho(n_frontieres) density at outermost layer (usually tau=0.01)
45. convect(1) convective or rad at core?

46. convect(n_frontieres) convective or rad at top?
47. nconvlayer nb of convective layers
48. P23/1D6 pressure at tau=2/3 in bars
49. T23 temperature at tau=2/3 in K
50. Teq equilibrium temp [K]
51. aplanete/AU
52. fract_ice ice mass fraction in core
53. menve/mearth envelope mass
54. menve/menveinit current envelope mass / initial envelope mass
55. Tint intrinsic temperature K
56. waterstate
57. thab/an
58. rho mean planet density [g/cm**3]
59. Eintcore [erg]
60. Egravcore [erg]
61. Lintcore/LJ core lumiosity due to core cooling
62. Lgravcore/LJ core luminosity due to core contraction
63. (Lint+Labs)/LJ
64. lambda max Wien mu maximum wavelength of radiation
65. rroche/Rearth Hill sphere radius
66. ABS(mdotover)/Mearth*an
67. H23 Scale height at tau=2/3
68. G23 gravitational acceleration at tau=2/3
69. Rtrans/Rearth Transit radius in Rearth
70. Rtrans/RJ Transit radius in Rjupiter
71. R1bar/Rearth 1 Bar radius
72. T1bar Temperature at 1 Bar radius
73. tau1bar Tau at 1 Bar radius
74. M1bar/Mearth Mass at 1 Bar radius
75. Lbloating/LJ Bloating luminosity
76. Lintenve/LJ Luminosity of envelope from cooling
77. Lgravenve/LJ Luminosity of envelope from contraction
78. Eintenve [erg]
79. Egravenve [erg]
80. kv2kth ratio opacity in visual to thermal for atmo model
81. Rstar/Rsun stellar radius
82. Tstar stellar effective temperaure
83. Lstar/Lsun stellar luminosity
84. FhalfDeg(1) Fermi integral for degeneracy
85. thetaEDeg(1) Degeneracy parameter 1=fully nondegenerate 0=fully degenerate
86. psiDeg(1) degeneracy parameter
87. Rrcb/Rearth Radius innermost radiative convective boundary
88. Lrcb/LJ Radius innermost radiative convective boundary
89. Prcb/Bar Pressure at innermost radiative convective boundary
90. Trcb Temperature at innermost radiative convective boundary
91. Mrcb/Mearth Mass at innermost radiative convective boundary
92. taurcb Optical depth at innermost radiative convective boundary
93. Kapparcb Kappa at innermost radiative convective boundary
94. Rhorcb density at innermost radiative convective boundary
95. dlnTdlnPradrcb radiative gradient at innermost radiative convective boundary
96. dlnTdlnPconvrcb convective gradient at innermost radiative convective boundary
97. totally emitted energy (integral L dt)
98. contrast black body 1 mu
99. contrast black body 2 mu

100. contrast black body 3 mu
101. contrast black body 4 mu
102. contrast black body 5 mu
103. contrast black body 6 mu
104. contrast black body 8 mu
105. contrast black body 10 mu
106. contrast black body 12 mu
107. contrast black body 16 mu
108. contrast black body 20 mu
109. contrast black body 40 mu
110. contrast black body 60 mu
111. contrast black body 100 mu
112. Abs Magnitudes: AMES Cond 2MASS J
113. H
114. K
115. AMES Cond NACO J
116. H
117. Ks
118. Lp
119. Mp
120. AMES Cond SPHERE Y
121. J
122. H
123. Ks
124. AMES Dusty 2MASS J
125. H
126. K
127. AMES Dusty NACO J
128. H
129. Ks
130. Lp
131. Mp
132. AMES Dusty SPHERE Y
133. J
134. H
135. Ks
136. BT Settl CFIST 2011 bc 2MASS J
137. H
138. K
139. BT Settl CFIST 2011 bc NACO J
140. H
141. Ks
142. Lp
143. Mp
144. BT Settl CFIST 2011 bc SPHERE Y
145. J
146. H
147. Ks
148. Abs Mags for black body, Vega normalized U
149. B
150. V
151. R
152. I
153. J

154. H
155. Ks
156. L
157. M
158. N
159. Q
160. W1
161. W2
162. W3
163. W4
164. Abs Fluxes in Jansky for black body
165. B
166. V
167. R
168. I
169. J
170. H
171. Ks
172. L
173. M
174. N
175. Q
176. W1
177. W2
178. W3
179. W4
180. Abs magnitudes from BT settl grid 2MASS J
181. 2MASS H
182. 2Mass Ks
183. VLT NACO CONICA J
184. VLT NACO CONICA H
185. VLT NACO CONICA Ks
186. VLT NACO LPRIME
187. VLT NACO MPRIME
188. HICIAO H
189. Pcent [BAR] (estimated central pressure)
190. Tcent [K} estimated central temperature for adiabatic profile

To check for energy conservation at one timestep (without D burning): it must hold that 11=25+27 and that 11=30+61+62+27

To check for energy conservation accross time: 19+97 should be constant (without Dburning, Lradio, and Lbloating, and non-irradiated planets).
