

## ***Interactive comment on “Scheme for calculation of multi-layer cloudiness and precipitation for climate models of intermediate complexity” by A. V. Eliseev et al.***

### **Anonymous Referee #2**

Received and published: 2 September 2013

Review of the paper “Scheme for calculation of multi-layer cloudiness and precipitation for climate models of intermediate complexity” by A. Eliseev, D. Coumou, A. Chernokulsky, V. Petoukhov and S. Petri.

Paper describes a new scheme for clouds and precipitation simulation and a procedure for calibrating governing parameters. Scheme description is rather complete, but requires some corrections.

Comparison with observations is too rosy. More needs to be said about shortcomings and limitations of the described scheme.

I recommend publication with some revisions.

C1234

Specific comments.

Page 3244, Eq (3) indexes “s” and “m” are not specified.

Page 3245, Eq (7) word is not defined. Page 3246, line 4. “is zeroed” sounds awkward.

Page 3248. Meaning of index “MK” should be explained here, not on page 3252

Line 4 “by” is not needed here.

Lines 12-13. Approximation cannot be based on Figure; it can be based on the results or dependency shown on Figure.

Page 3249, line 15. It should be  $W(1,3)$  not  $W(1,1)$

Page 3251, line 19. Replace “figured” with “described”

Page 3252, line 19. Replace “constructed” with “calculated”.

Page 3255, line 8-9. It is said in abstract that ERA-40 data for 1979 to 2001, not 2002, were used.

Page 3257, lines 19-22. Six year averages hardly can be called climatological means.

Page 3262. It should be mentioned (and, if possible, explained) that scheme rather poor simulate precipitation in the tropical region.

Pages 3263-3264. Once again, discussion of the scheme's shortcomings needs to be added to the conclusions.

---

Interactive comment on Geosci. Model Dev. Discuss., 6, 3241, 2013.