

Interactive comment on “Stability of soil organic matter in Cryosols of Maritime Antarctic: Insights from 13-C NMR and electron spin resonance spectroscopy” by Evgeny Abakumov and Ivan Alekseev

Anonymous Referee #2

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The manuscript, titled “Stability of soil organic matter in Cryosols of Maritime Antarctic: Insights from 13-C NMR and electron spin resonance spectroscopy” is devoted to problem of soil organic matter stabilization in Cryosols of Maritime Antarctic with special reference to molecular structure and biochemical activity of the molecules.

Following comments are made with aim to improve the quality of manuscript: 1. list of references should be improved and styled according to the journal requirements. 2. table 2 – clarify if data presented in mass or atomic values? 3. table 5 better to call “Free radical concentration in . . .” and improve the second column. 4. table 5 – clarify

the error of ESR methods 5. sample codes in table 4 do not correspond to table 1. 6. fig 1 – It is not evident were sampling point were located. 7. fig 2 – capture – clarify 1,2 and 3 designations. 8. fig 3-5 are low quality and axes are not designated.

Other minor issues: Line 13-15, 34-36 – key words are the same as highlights Line 80 Lodigin change to Lodygin Line 80 – excess braket Line 186 - correct "ZrO₂". Line 189 , table 3, 4 - aryl/olefin change to aromatic Table 3 and 4 Calkyl, Calkyl/O-N alkyl, Caryl/Calkyl change to Alkyl, alkyl/O-N alkyl, Arom/Alkyl Table 3 and 4 – lines 2 and 5 – add "Chemical shift, ppm" Line 487 Figure 4. Change to Fig. 3. Line 488 – Figure 5. Change to Fig. 4.

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Discussion paper

