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Dear Oliver !

There is our short positive resolution about Your model and the article. On our opinion it should be supported real data from any zone and forests. Needs international efforts and interests in this field.

In the article are analyzed the potential consequences of catastrophic wildfire in the Chernobyl Exclusion Zone (CEZ) on the basis of sub-models. This topic is of interest not only for Ukraine and Belarus, but also for Russian Federation. As in the contaminated forests in the south-west of Bryansk region there are areas similar to the radiation situation in the 30-km zone of Chernobyl.

Our team has been monitoring the status of forest ecosystems in the zones of radioactive contamination in the Russian Federation for more than 10 years. We have some comments regarding the source model and transport model. Long-term observations of migration of ^{137}Cs in the contaminated forests show that the maximum of its concentration is in forest litter and upper 5-cm soil layer. In these layers the ^{137}Cs percentage of the total stock in the ecosystem depends on forest type, and makes up 85 - 98%. In pine forests it usually exceeds 95%. We believe that the ratio combustible/soil of ^{137}Cs given in Table 1 is understated 3 - 7 times. For middle-aged pine stands with a strong forest litter, this ratio should be 0,6 - 0,7. This remark applies only to ^{137}Cs .

In the summer of 2010, we measured the parameters of the radiation situation during forest fires by the density of soil contamination about 1 Ci/km^2 ($35000 - 36000 \text{ Bq/m}^2$). These were ground wildfires with a low intensity of burning on more than 250 hectares. The measurements show that the dose of gamma radiation has not changed and amounted to $0,14 \text{ mSv/h}$, the concentration of ^{137}Cs in the ash increased in 2,5 times, but the density of soil contamination has not changed. The concentration of ^{137}Cs in the gas-smoke aerosols was less than $2,5 \text{ Bq/m}^3$. Thus, in the wildfires on a large area but with low intensity of burning in the zone of contamination around 1 Ci/km^2 , the radiation situation remains unchanged.

We believe that the selected models in whole adequately describe the potential consequences in cases of catastrophic wildfires in the Chernobyl exclusion zone. It is possible that the total release of radioactive materials ($2,1 \times 10^{14}$) is understated

due to underestimation of the proportion of ^{137}Cs in forest combustible. But this fact would hardly change the general conclusions of the article.

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Sincerely,

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