

## Introduction

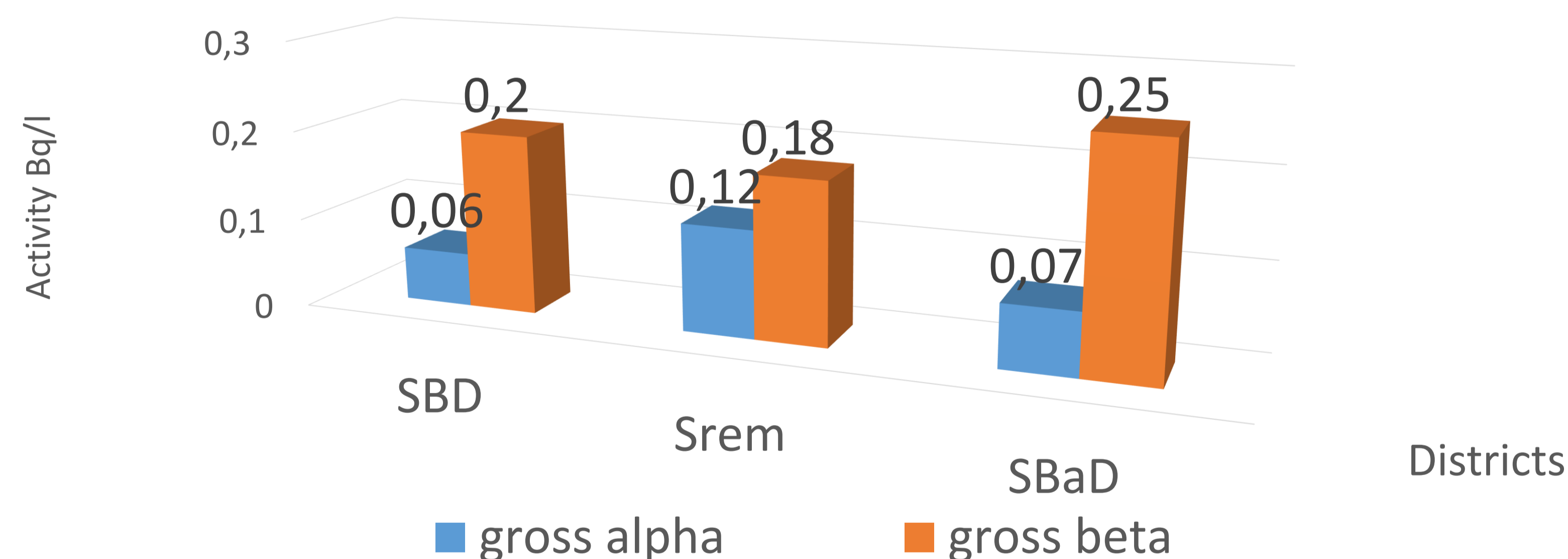
In order to protect the human health from potential adverse effect of radionuclides, through drinking water, WHO recommended the determination of radionuclides concentrations in drinking water.

## Aim

Identified trend of mean concentration of gross alpha and beta radioactivity in drinking water according to some district of region of AP Vojvodina, as well as the trend of the number of samples above the national limit value.

## Results

Average gross alpha and beta particle activities in drinking water of Vojvodina districts during 2013-2018

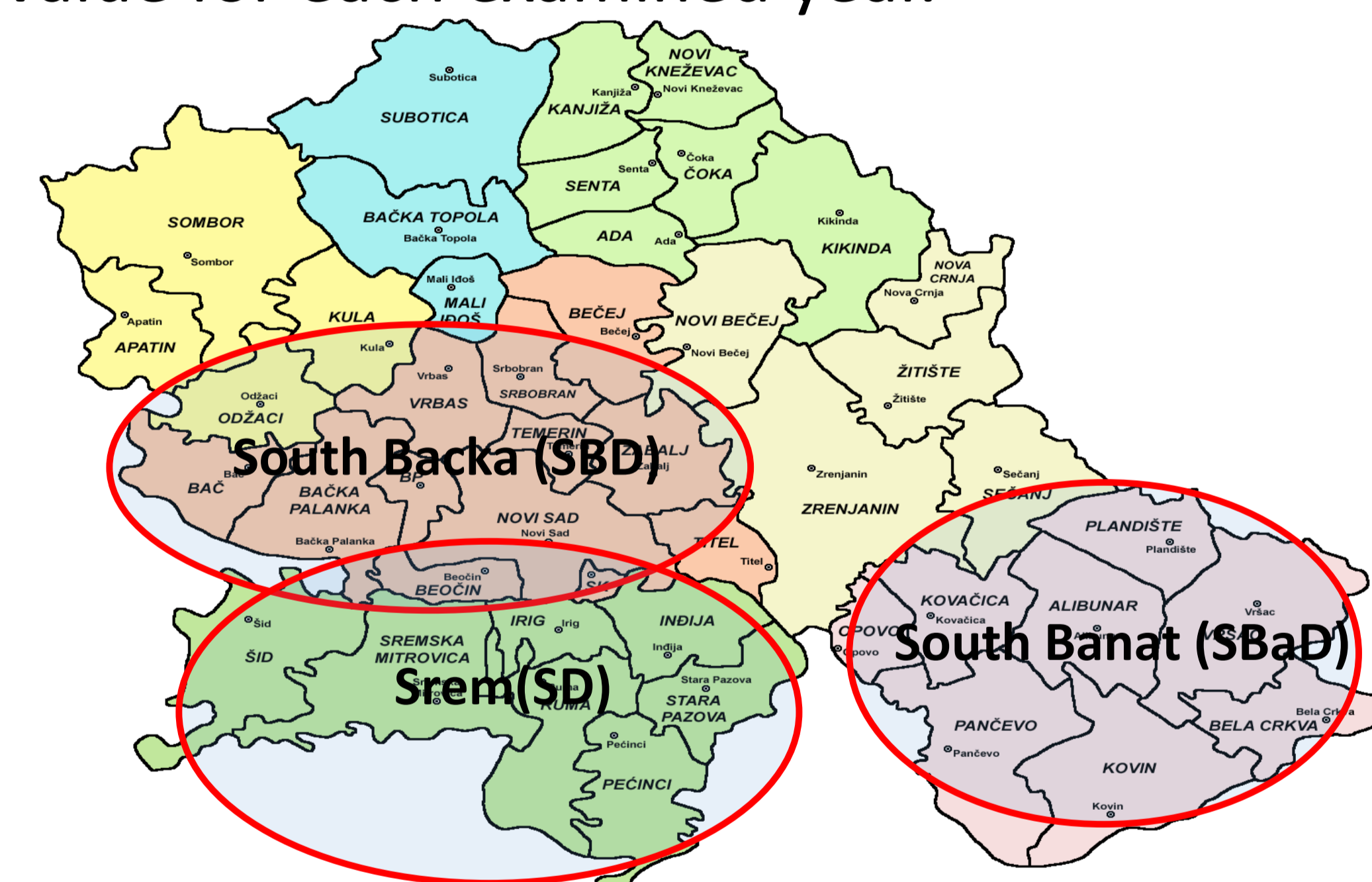


## Method

In the six-year period (2013 - 2018), data of the concentrations of gross alpha and beta activity in drinking water from the territory of the three districts of AP Vojvodina (South Backa (SBD), Srem (SD) and South Banat (SBaD)) were analyzed. Cited districts are selected from the aspect of achieving a multi-annual continuity in terms of determining gross alpha and gross beta activity in drinking water. Total number of samples of drinking water in which it is determined gross alpha and gross beta activity by liquid scintillation counting technique in accredited laboratory of Faculty of Science, Department of physics was 141 in SBD, 140 in SD and 24 in SBaD. All samples, as well as samples with value below the laboratory limit value of gross alpha / beta activity (2%/68% in SBD, 1,4%/61% in SD and 4%/83% in SbaD) were analyzed with descriptive statistical method (average (determined deterministic), minimum, maximum and frequencies) and by linear trend regarding to average value for each examined year.

305 samples of drinking water in the period 2013-2018

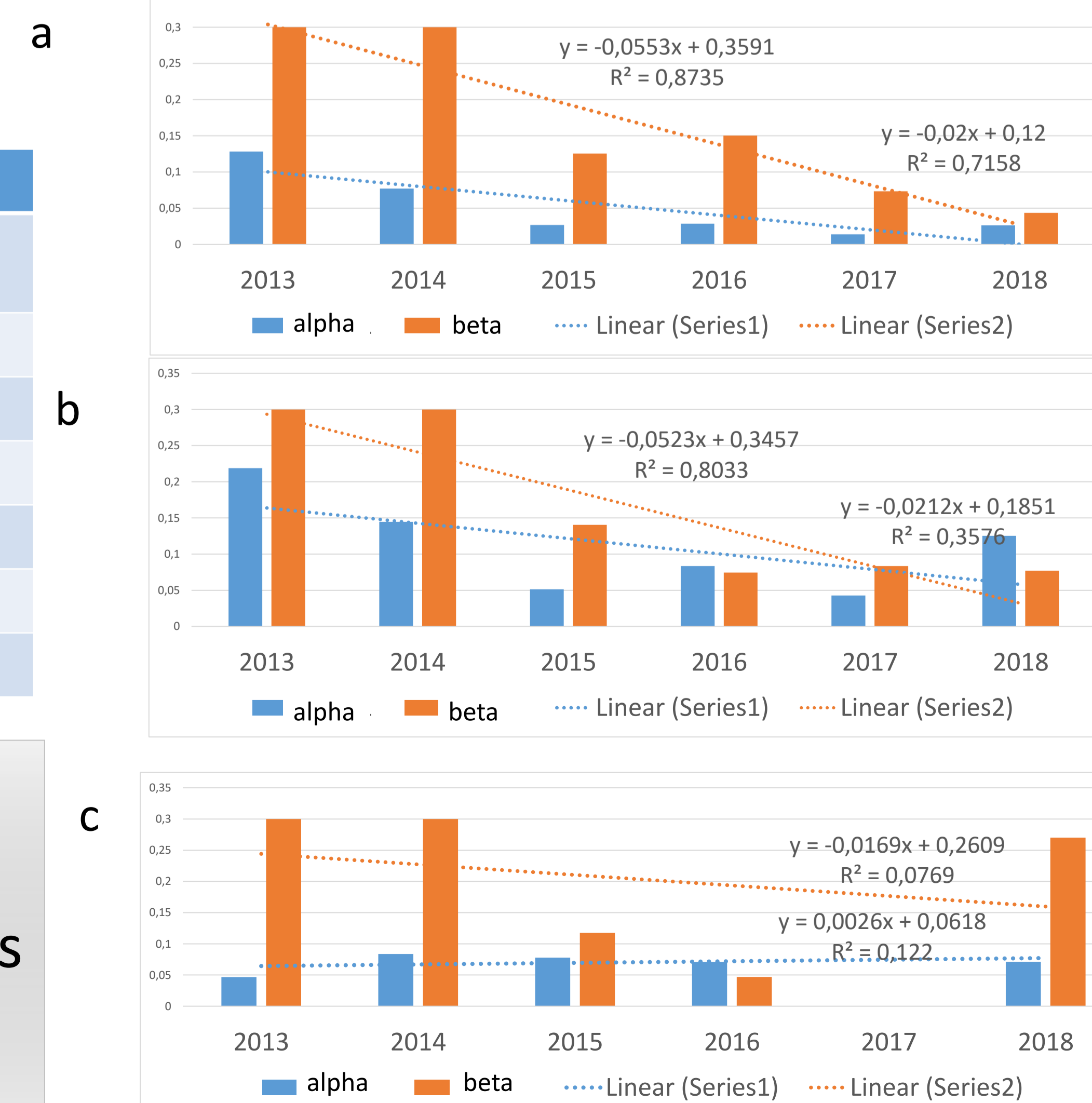
141 in SBD  
140 in SD  
24 in SBaD



Linear trend of average annual gross alpha and beta activity in drinking water from districts SBD (a), SD (b) and SBaD (c)

Exceeding national limit value for gross alpha and beta activity in drinking water according to districts in Vojvodina

Years	SBD		SD		SBaD	
	gross alpha	gross beta	gross alpha	gross beta	gross alpha	gross beta
2013	no	no	3 samples	no	no	no
2014	no	no	2 samples	no	no	no
2015	no	no	no	no	no	no
2016	no	no	no	no	no	no
2017	no	no	no	no	-	-
2018	no	no	6 samples	no	no	no



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## Conclusion

Although there was decreasing trend of annual average gross alpha and gross beta activity in drinking water from several district of AP Vojvodina, there was also increasing trend of samples with the exceeding national limit value for gross alpha activity in SD, which imply on possible risks for human health and necessity for continuous monitoring of drinking water.

