By arranging the ion-transporting gas flow between two parallel electrodes 103, and setting an electrical field of the type referred to above between these electrodes, some of the ions 105 can be removed through the structure thus obtained and the desired passband can be selected with the aid of the aforementioned compensation voltage. By using an electric field after the filter in the flow direction to collect the ions 104 that have passed through the filter, it is possible to determine the quality and/or number (reference number 16 in Figures 1 and 6 - 8) of the ions 104 that have passed through.

For its part, Figure 2 shows a situation corresponding more to reality in the case of the behaviour of the ions in the aforementioned filtering technique. The flow profile 101 of the gas flow shows that the ionized gas flow to be analysed covers the entire cross-section area of the flow channel 18. As the ions are distributed evenly over the flow channel 18, the filter electrodes 103 will inevitably also collect ions 104b that it is particularly desired to pass through the filter. These ions 104b, which are too close to the edge of the flow channel 18, are neutralized and thus out of the flow that has passed through the filter. This reduces the signal obtained from the system comprising the filter, and also the signal-noise ratio.

The present invention is intended to create a method and structure, which will improve the signal obtained from chemical analysis. The characteristic features of the method according to the invention are stated in Claim 1 and those of the structure in Claim 87.

In the invention, a parallel mainly non-ionic gas flow, which is on at least one side of the ionized gas flow, is led along with the ionized gas flow to the filter structure. The use of the solution prevents, or at least reduces, the filtering of ions that it is wished to pass through the filtering. In addition to the

channels. Channels of different sizes are not, however, excluded, as in the practice device the large side-flow channels can, in some cases, be a significant advantage. The ratio of the flow quantities of the middle channel and the side channels can be 1:2, or even 1:200. In other words, 200 litres per minute would flow from the side channels, while 1 litre per minute would flow from the middle, but in that case, the dimensions should, of course, be quite large.

~~It must be understood that the above description and the related figures are only intended to illustrate the present invention. The invention is thus in no way restricted to only the embodiments disclosed or stated in the Claims, but many different variations and adaptations of the invention, which are possible within the scope on the inventive idea defined in the accompanying Claims, will be obvious to one skilled in the art.~~

(11) dividing the flow channel (18) into parts and the filtering area (28).

10. Structure according to any of Claims 7-9, characterized in that the filtering area (28) includes a structure (15) for flattening the ionized gas flow (24) by the mainly non-ionized gas flow (13).

~~11~~11. Structure according to any of Claims 7-10, characterized in that at least part of the gas flows (13, 24, 24') is arranged to be brought from the sides into the filter structure (10) when it is in the operating attitude.