

## **Curve fitting method of Stark width determination – example of H I line in Sirius B spectrum**

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Astrophysical application of Stark broadening theory were intensively developed in the last hundred years. For example, Verweij (1936) among the others pointed out the importance of Stark broadening influence on spectral line shape even in the core of Balmer lines measured in the spectrum of the objects with  $\log g > 5$ , e.g. white dwarfs. Since then, many of scientific investigation has been done to prove significance of taking Stark width into consideration during spectral analysis of white dwarfs, even if the other elements have been investigated instead of hydrogen, where Stark broadening has affected more on wings than on the core of the spectral line. We propose here simple curve fitting method for experimental determination of Stark width in the example of Ly  $\alpha$  line in the spectrum of Sirius B, which is one of the earliest identified white dwarfs. After comparison of our synthetic line with measured one, model of the white dwarf atmosphere is used for determination of atmospheric depth which, according to our assumptions, considered spectral line comes from.