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## Variations of $^{57}\text{Fe}$ Hyperfine Parameters in Medicaments Containing Ferrous Fumarate and Ferrous Sulfate

$^{57}\text{Fe}$  hyperfine parameters may be used to additionally characterize a quality of iron-containing pharmaceutical products. Therefore, we studied, using a high velocity resolution Mössbauer spectroscopy, several commercially available medicaments containing ferrous fumarate ( $\text{FeC}_4\text{H}_2\text{O}_4$ ) and ferrous sulfate ( $\text{FeSO}_4$ ) as a source of ferrous iron. It was shown earlier that Mössbauer spectroscopy with a high velocity resolution gives a better accuracy of hyperfine parameters evaluation, hence it enables revealing of small variations in their values [1, 2]. In this study, Mössbauer spectra of various samples were measured in 4096 channels at room temperature using a spectrometric complex described elsewhere [3, 4]. The spectra of the samples containing ferrous fumarate were presented for their analysis in 2048 channels by consequent summation of 2 neighboring channels, while those of other samples were analyzed in 4096 channels. As example, the spectrum of Sorbifer Durules ( $\text{FeSO}_4$ ) is shown in Fig. 1. The analysis of the spectra recorded on the samples containing  $\text{FeSO}_4$  revealed a presence of one main and two minor ferrous compounds, whose hyperfine parameters are shown in Fig. 2. It is interesting to observe small differences of the hyperfine parameters for the main component ( $\text{FeSO}_4$ ). Similar differences in the hyperfine parameters of the main component ( $\text{FeC}_4\text{H}_2\text{O}_4$ ) were found for the samples containing ferrous fumarate. They may have their origin both in the production process as well as in ingredients used by different producers.

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