

Key Word: JSX-1000S, ElementEye, RoHS, iron alloy, secondary filter, sum peak removal, smart FP method

## Analysis with separation of As and Pb in Iron and Steel is possible.

Secondary Filter

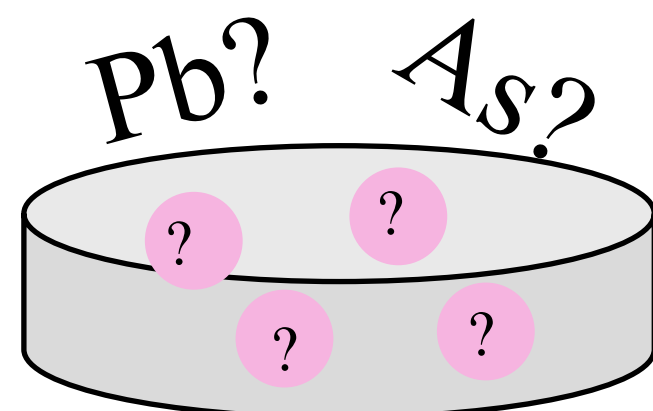
Sum Peak Removal Software

Smart FP Method

Iron and Steel are general-purpose materials. However, with existing RoHS analysis, it has not been possible to differentiate between Pb or As contained in the material.

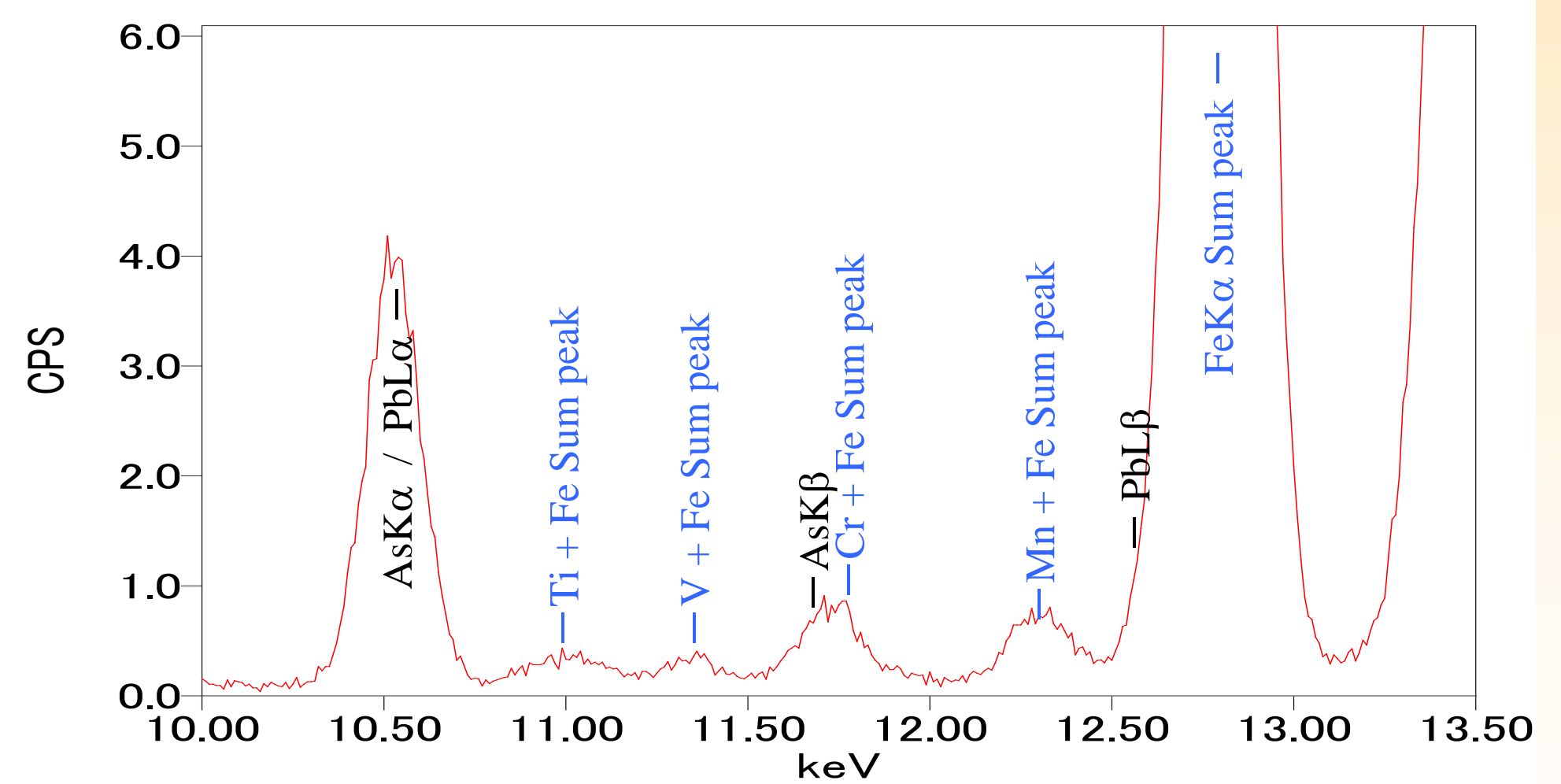
With Element Eye, quantitative analysis is possible with highly-precise separation of As and Pb by using secondary filter + sum peak removal software + smart FP method.

### Conventional Result

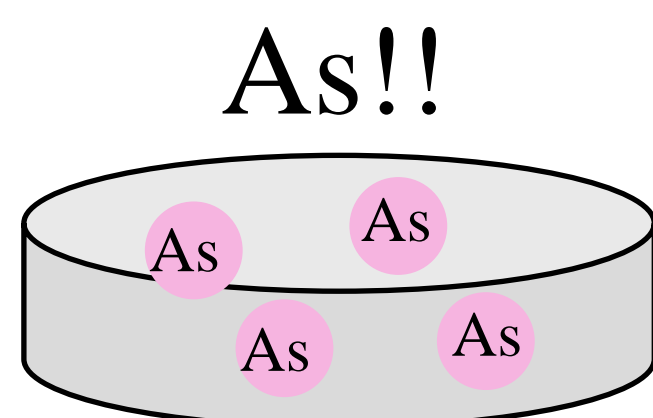


With the presence of the Fe sum peak, it is not possible to confirm the presence of the PbL $\beta$  peak.

Therefore, it is not possible to determine whether the 10.5keV peak comes from As or Pb.



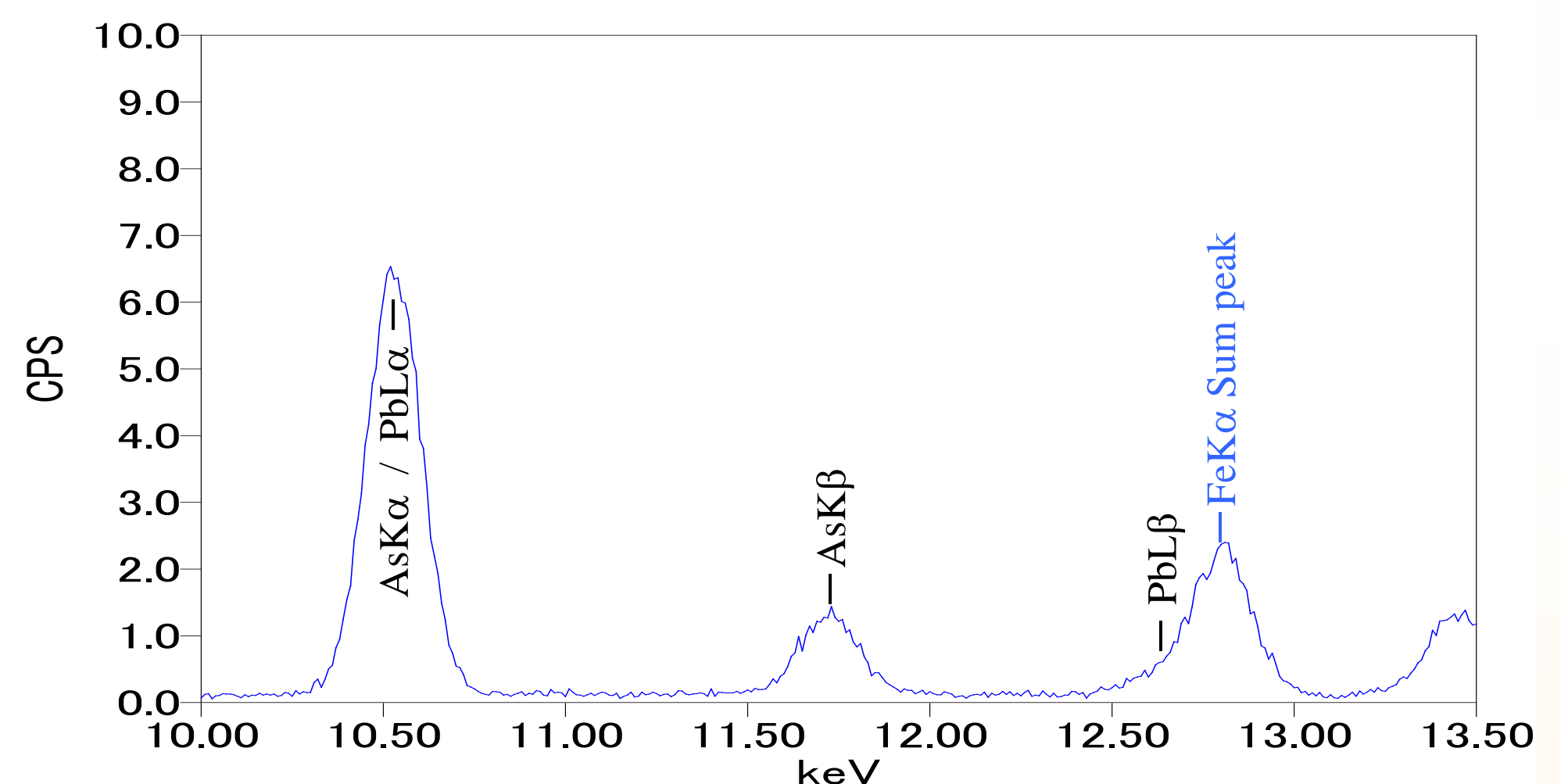
### Result with Secondary Filter



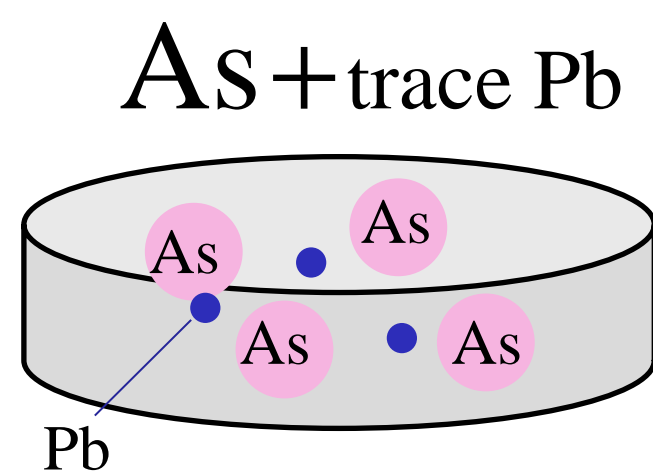
The Fe sum peak is reduced.

This makes it clear that there is almost no PbL $\beta$ , and that the 10.5keV peak is due to the presence of As.

The small sum peak around the 11 to 12.5keV band also disappeared, and confirmation of AsK $\beta$  is possible.

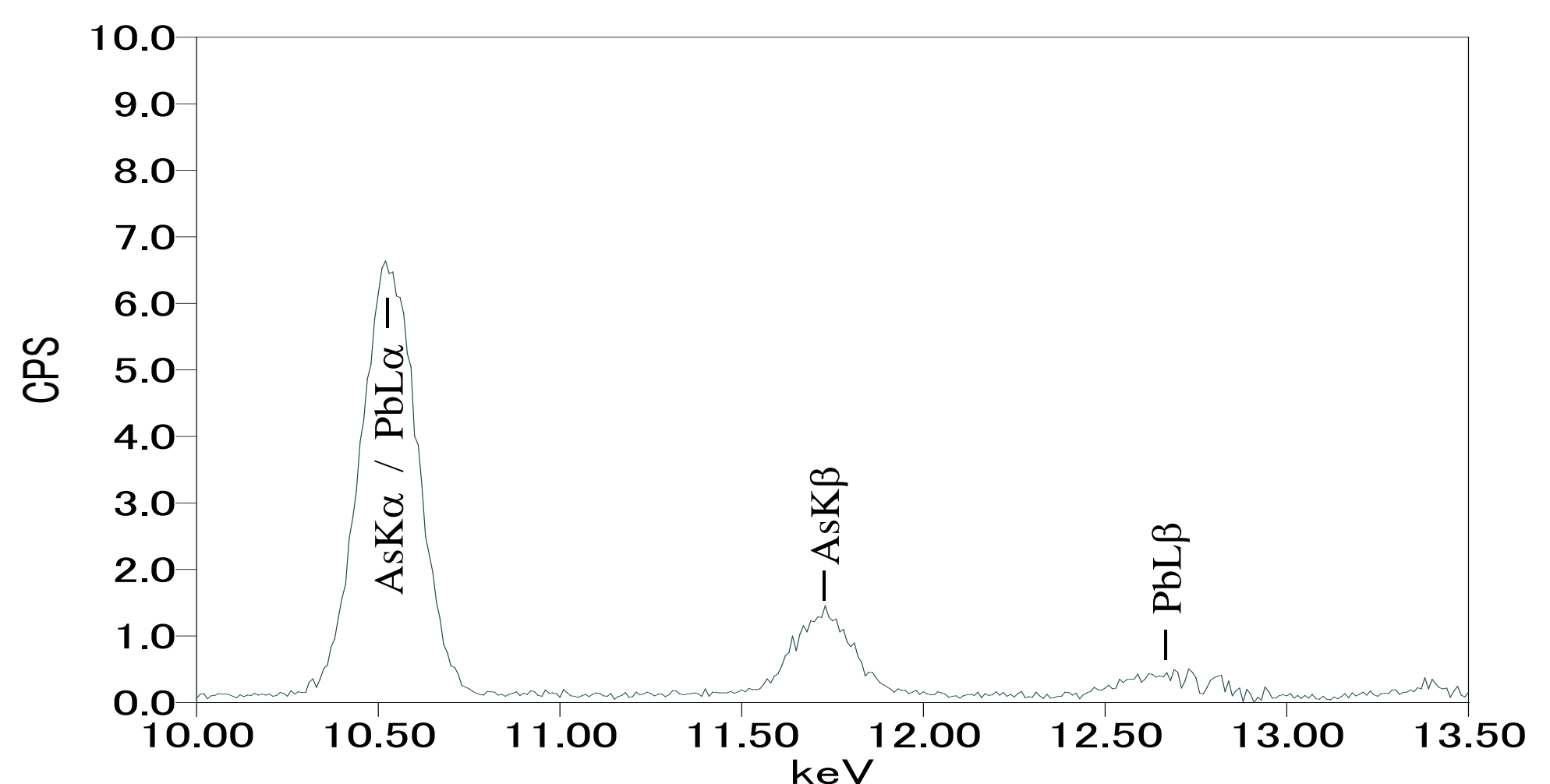


### Result with Sum Peak Removal Software



In addition, using sum peak removal software (option), the Fe sum peak is compensated for even further, and the original spectrum without the sum peak is obtained.

This spectrum shows that PbL $\beta$  does exist, although only a trace level.



### Analysis result using the smart FP method

| Element | Standard Value (ppm) | Analysis Result (ppm) | Calibration Curve (ppm) |
|---------|----------------------|-----------------------|-------------------------|
| Pb      | 38                   | 44                    | 1630                    |
| As      | 920                  | 884                   |                         |

With the smart FP method, every peak such as the Pb L $\alpha$  line and L $\beta$  line, and the As K $\alpha$  line and K $\beta$  line are utilized for quantitative analysis.

Therefore, as quantification is conducted by separating the 10.5keV peak, according to the intensity ratios of the Pb L $\alpha$  and L $\beta$ , and the As K $\alpha$  and K $\beta$ , precise quantitative analysis is possible.

※ The analysis values are the values using the filter FP method (option).  
With the RoHS solution, the equivalent value is shown only for the Pb result.

Access the QR codes below for more information on the EDXRF

◆ Overview →



◆ Mechanisms →



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