

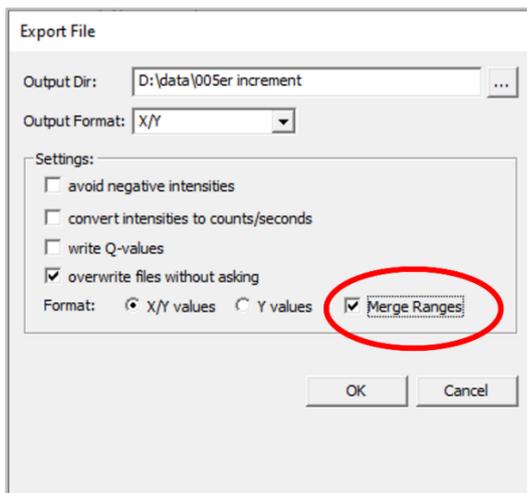
STOE WINXPOW - LOWER DATA POINT INCREMENT IN STOE POWDER DATA

For nearly all research topics the STOE powder data increment of $0.015^\circ 2\theta$ is fully sufficient. But what can be done when a higher number of data points is necessary, e.g. for ultra-precise profile calculations or for the investigation of splitting reflections in the course of a phase transition?

Here is an explanation of an easy way to reduce the internal step width to 0.005° :

Create a raw-file with three ranges, the first from $n.000^\circ$ to $m.000^\circ$ the second from $n.005^\circ$ to $m.005^\circ 2\theta$ and the third from $n.010^\circ$ to $m.010^\circ 2\theta$ and start the data collection.

After the measurement open the raw-file with the WinX^{POW} *Raw Data Handling* tool and chose the *Export* function in the *File* menu. Select the destination folder of the ASCII xy-file and tick *Merge Ranges*.

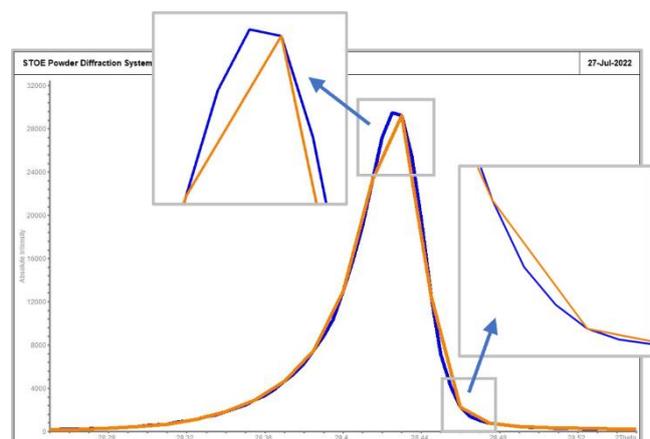


The resulting ASCII xy-file from $n.000^\circ$ to $m.010^\circ 2\theta$ is written into the destination folder and can be used by any popular Rietveld software or re-imported as a STOE raw-file using the *Import* function of the WinX^{POW} *Raw Data Handling*.

The following example is Transmission data from Si powder (NIST 640c), measured from 5.000° to $116.010^\circ 2\theta$ in three ranges with a 0.005° offset on a STOE STADI MP with Cu $K\alpha_1$ -radiation and a Dectris MYTHEN2 1K (1.11° steps, 10s/step).

2Theta (Begin, End, Step)	Omega (Begin, End, Step)	Time
5.000, 116.000, 1.110	2.500, 58.000, 0.555	10.0 / 0.26
5.005, 116.005, 1.110	2.503, 58.003, 0.555	10.0 / 0.26
5.010, 116.010, 1.110	2.505, 58.005, 0.555	10.0 / 0.26

The effect of the lower increment of the data set can be seen in the magnified areas of the pattern showing the Si11 reflection from 28.25° to $28.55^\circ 2\theta$, red the standard data point increment of 0.015° and blue the lowered increment of $0.005^\circ 2\theta$.



Note: Executing this artifice, the data of the three ranges will only be merged but not summed up.

Please do not hesitate to contact us:
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