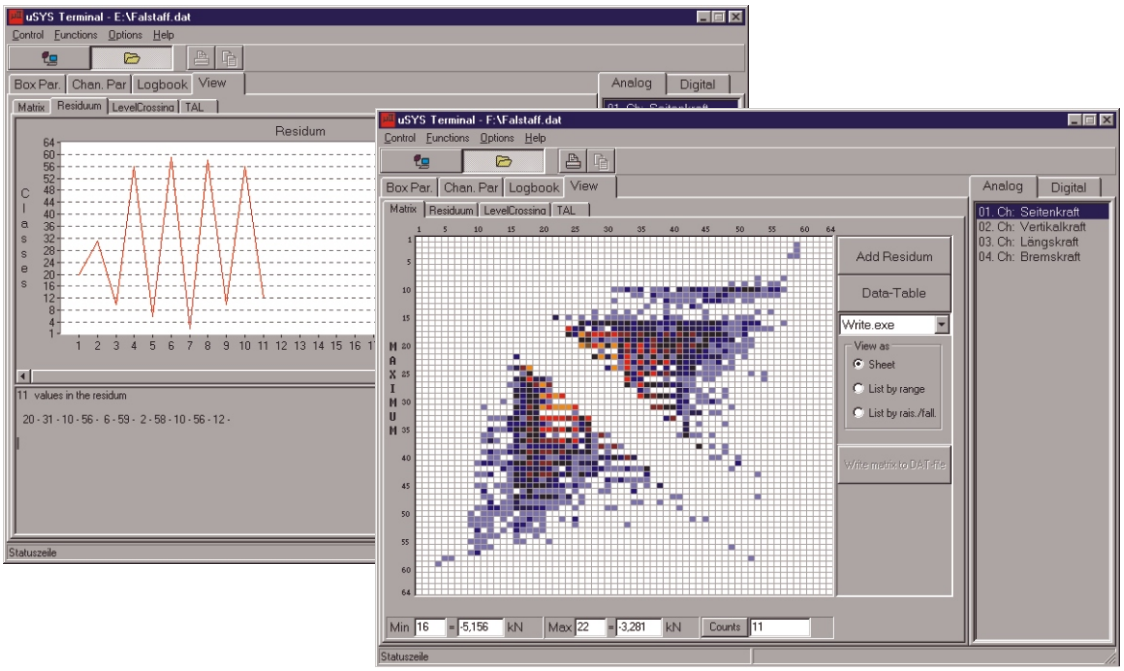
Evaluation Method

RF
Rainflow



Description of the Evaluation Method

Closed hysteresis loops are measured by this two-parameter evaluation method and stored in a matrix with the upper and lower value of the turning point. Half-cycles are first stored in an intermediate buffer and placed in the matrix when the appropriate half-cycle completes the hysteresis loop. At the end of the counting process the result is a matrix of closed cycles and a residual waveform representing hysteresis loops which have not been closed.

Typical Applications and Properties

This two-parameter evaluation produces the best picture of the damaging cycles with respect to fatigue in a load-time history. The matrix representation obtained by the Rainflow method is especially suitable for input into a computer. The only disadvantage is that no time information is recorded, but this is true for all statistical evaluation methods.

The Rainflow evaluation method can be used to reproduce load-time histories with a damaging content very similar to that of the original signal using the technique known as "Waveform Reconstitution".

Subject to technical alterations
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SWIFT GmbH is certified for aviation systems

Gesellschaft für Messwerterfassungs-Systeme mbH
Am Dieburger Berg 18 D-64354 Reinheim
Tel. +49 (0) 6162 - 82 0 86 info@swift-online.de
Fax +49 (0) 6162 - 82 6 04 www.swift-online.de