Title (en)
Monitoring the transport of yarn

Title (de)
Überwachung des Fadentransports

Title (fr)
Contrôle du transport de fil

Publication
EP 1473390 A2 20041103 (DE)

Application
EP 04405149 A 20040312

Priority
• EP 04405149 A 20040312
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Abstract (en)
A computer model (2) is used to calculate approximations (25.1-25.n) of at least one dynamic process magnitude characterizing thread transport, based on measured values (24.1-24.n) for at least one thread point or section (2.1, 21.i), The approximations are evaluated for thread monitoring, and used especially to display and/or control thread transport. A finite element simulation model is constructed for thread transport. Parameters (22.i) in the model are matched iteratively using measured values. Using the simulation model over a transport interval, variation of approximations over time, for at least one dynamic process magnitude of thread transport, is calculated for at least one thread point or section. A similar procedure is carried out for a partial length of thread. Tensile forces operating on the thread are calculated using these techniques. Tension or extension of the thread is determined. Determinations are made using non-contacting techniques. Measurements taken, include the starting time in a given position and displacement in a set interval, or velocity. The thread is transported in a straight line and/or the computer model (2) or simulation model has a one-dimensional structure. An independent claim is included for a loom executing the process described.

Abstract (de)
Es wird ein Verfahren zur Überwachung des Fadentransports in einer Webmaschine vorgestellt, wobei der Faden Fadenabschnitte (21, 21.i) umfasst, die mit einer zugehörigen Geschwindigkeit (v,) transportiert werden. In dem Verfahren werden Werte (24) mindestens einer kinematischen Messgrösse mindestens eines Fadenabschnittes (21, 21.i) erfasst und auf Grund der erfassten Werte (24) mittels eines Rechenmodells (2) Näherungswerte (25) der auf mindestens einen Fadenabschnitt (21, 21.i) wirkenden Fadenzugkraft berechnet. Die berechneten Näherungswerte (25) werden zur Überwachung angezeigt. <IMAGE>

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