LINACwatch^{ce}

ANALYSES LOG FILES TO FULLY AND AUTOMATICALLY CONTROL IN LESS THAN 2 SECONDS, EVERY SINGLE BEAM, FOR EVERY SESSION AND EVERY PATIENT!



THE PERFECT CHOICE TO IMPROVE PATIENT SAFETY IN IMRT ALL YOU REALLY NEED IS INSIDE

- Real-time analysis: 2 seconds after the session
- Immediately alerts therapist to LINAC problems
- Analyses thousands of actual measurements
- Exports a RT-plan file with out-of-tolerance log file data to calculate the dose-of-the-day on your TPS
- Pinpoints the exact origin of errors
- Extensive range of tested parameters
- Fully customizable
- Attractive and adapted pricing

WHY... systematically include a low-end TPS in a log file analyser?

- Much higher price
- ⊗ No real-time analysis
- Explosion of generated patient data
- ⊗ Poor pencil-beam TPS
- © Confusion of error origin
- Overrated importance of log file contents

WHY... bother with hardware to measure the collimator output?

- Expensive purchase and maintenance costs
- **©** Tiresome calibrations
- Breakdown risks
- Poor spatial resolution
- Obstacle to collimator exit
- ⊗ Loss of light simulation



A POWERFUL QUALITY ASSURANCE TOOL FOR IMRT ENHANCED WITH A CRYSTAL CLEAR WORKFLOW!

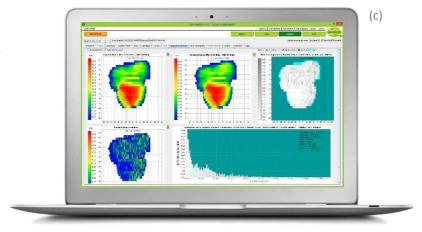
- LINACs* generate LOG files which correspond to a copy, at a high frequency, of the irradiation parameters.
- LINACWATCH is a software program which automatically analyses these LOG files in real time and in background (batch) processing by comparing them to the planned treatment described by the DICOM RTplan file associated with the beams.

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4 BUTTONS DO IT ALL!

- « Import »: to download just once the RTplan file of your Patient's planned treatment.
- « BATCH Journal »: the therapist in the control room views in real time the analysis of the LOG files of the beam he just delivered. The physicist responsible for the LINAC automatically receives an email if results are out of tolerance.
- « Load session »: the physicist has at his disposal for the selected beam the detailed analysis of the session divided into 6 main tabs:
 - ► The « **Dynamic view** » tab (Fig. a) shows the film of the temporal evolution of the leaf positions, the % of Monitor Units (MU) delivered, the gantry angle and the map of the fluence comparison index.
 - ➤ The « Integrated fluence » tab (Fig. c) shows the planned and delivered integrated fluences, and their comparison in Gamma or Chi index.
 - ► The « Leaves » tab (Fig. b) displays for all of the MLC leaves the temporal evolution of the deviations between their planned and treated positions, as well as the statistical analysis of these deviations.
 - ► The « Gantry » and « Colli » tabs present the temporal evolution of the deviations between the prescribed and treated rotation angle and the statistical analysis of these deviations.
 - The « Lags » tab enumerates in particular lags of the beam extinctions ordered by the MLC controller.





- You may obtain at any time:
 - ▶ A PDF report printout recapping all of these screens and analysis criteria. You can then review these reports by clicking on « View ».
 - ▶ Export of a DICOM RTplan file integrating the "reality" of the irradiation coming from the LOG files. You can then download this RTplan onto your TPS to recompute the dose delivered during this particular session, during a set of sessions or over the course of the entire treatment.
- By downloading a complete treatment you can in fact also use LINACWATCH to obtain a global treatment analysis and export an RTplan reflecting it in its entirety if so desired.



- ELEKTA: LOG files generated in .dat format (or .xml format but in this case the BATCH mode is not available),
- VARIAN: Dynalog (Clinac) and Trajectory Log (TrueBeam) files.



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