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The ILC Positron Source

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High luminosity is required at future Linear Colliders
which is particularly challenging for all corresponding positron sources.
At the ILC, polarized positrons are obtained from electron-positron pairs by converting high-energy photons produced by passing the high-energy main electron beam through a helical undulator.
The conversion target undergoes cyclic stress with high peak values. To distribute the high thermal load, the target is rotated with 100 m/s.
However, the cyclic stress
over long time as well as the temperature dependent material parameters yield thermo-mechanical load which could exceed the recommended fatigue limit.
In the talk, a general overview about the ILC positron source components is given as well as new results on the target stress
evolution. The target design parameters are reviewed as well.

Primary author: Prof. MOORTGAT-PICK, Gudrid (University of Hamburg / DESY)

Co-authors: Dr USHAKOV, Andriy (University of hamburg); Dr FLOETTMANN, Klaus (DESY); Dr ADEYEMI, Olufemi Segun (University of Hamburg); Dr RIEMANN, Sabine (Deutsches Elektronen-Synchrotron (DE))

Presenter: Prof. MOORTGAT-PICK, Gudrid (University of Hamburg / DESY)

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