

# Topical Workshop on Diagnostics for Ultra-Low Emittance Rings (TW-DULER)



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## The Stability Task Force at MAX IV

*Friday 20 April 2018 13:00 (30 minutes)*

The work on stability for MAX IV took speed around 2010 and has since been an important factor in calculations and designs for buildings, supports and the components of accelerators and beamlines. The stability work is now in a different phase, where observations of stability and instabilities emerges. This is the reason for establishing the MAX IV Stability Task Force in 2016. I will give a summary of the early work and summarize the philosophy behind setting stability tolerances at MAX IV. The civil engineering concepts developed for the project is shown. Some methods and policies, which we need to use, in order to maintain our stability, will be described. Realizing the risk of sub optimization, a “holistic” approach was taken in order to ensure accelerator performance: stability, alignment precision, vacuum and maintenance. The MAX IV solution to this challenge is presented as well as lessons learned in retrospect. Recent results from the characterization of stability at the lab will be presented, showing how the philosophy works. Some methods, tools, and possibilities for stability characterization will be described. Finally, I will list some of the projects that are running and some, which I think should be run, in order to assure our future operations.

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