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| <b>Title:</b>  | <b>Development and Test of XFEL Modulator Prototypes</b>   |
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| <b>Abstract:</b><br>(Your abstract <u>must</u> use normal style and should be no longer than one page (including diagrams)). | <p>The European XFEL, an X-ray free electron laser, is planned as an European project with a strong connection to the DESY research center in Hamburg. Construction started in summer 2007 and commissioning will begin at the end of 2013.</p> <p>The LINAC of the XFEL will consist of about 27 RF stations, which supply the RF power required by the superconducting cavities. In order to generate the RF power (1.3 GHz, 10MW pulses) HV pulse modulators are required. Each modulator has to supply 12kV pulses at 1.6kA for 1.5ms pulse duration and at 10Hz nominal repetition rate. The repetition rate must be able to be increased to 30Hz keeping the average power constant. A 1:12 pulse transformer transforms the output pulses of the modulator to a 120kV/140A level required by the klystrons. Although extensive experience exists from the test facilities FLASH (DESY, Hamburg Site) and PITZ (DESY, Zeuthen Site) a dedicated modulator test stand has been setup for testing new modulator prototypes developed by different companies. The test stand setup is similar to the setup of the future XFEL RF-stations. Since it is not possible to perform full and long term prototype testing at the manufacturers sites, it has been decided to build this special test facility. The results of prototype testing together with the experience gained from the already running RF-stations at PITZ and FLASH will be an important criteria for the decision on the final design and choice of vendor.</p> <p>In the presentation an overview of the Modulator Test Facility at DESY (Zeuthen Site) will be presented. The first of the two prototypes has been delivered in July 2008 and started its operation in October last year. First test results of this prototype will be presented.</p> |