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# Commissioning and Testing of Varian's 250 MeV Superconducting ProBeam™ Cyclotrons for Proton Therapy

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Varian Medical Systems Particle Therapy is facing the challenge of having to manufacture, test, deliver, and commission several ProBeam™ proton therapy systems within the next years. Our strategy to deliver high quality products is based on comprehensive integral factory testing of all critical system components, including beam operation of the 250 MeV superconducting cyclotrons. For that purpose, Varian is operating an integrated assembly and test facility near Cologne/Germany.
We report on the factory commissioning of Varian's 3rd SC cyclotron comprising of magnetic shimming, fast pulsed mode RF conditioning using a newly developed high power combined transistor amplifier, hw and sw system integration tests, and -finally- beam operation. This machine, together with all other technical equipment, has already been delivered to the customer's site in the USA. The successful transportation and installation proved Varian's concept of shipping the cyclotron essentially in its factory assembled and tested state. On-site verification tests are fulfilling our expectations for fast beam commissioning. Furthermore, the current manufacturing status of cyclotrons #4 and #5 will be presented.

## Please indicate preferred presentation (poster or talk?)

talk

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