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Installation and integrated testing of magnets for the ESS linac

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The European Spallation Source (ESS) linear accelerator is designed to accelerate a 62.5 mA, 2.86 ms, 14 Hz proton beam up to 2 GeV for delivery to a rotating tungsten (W) target. The beam transfer sections between linac cryomodules and approaching the target contain over 200 quadrupole, dipole and corrector magnets for beam envelope and trajectory control. In addition, a raster magnet system comprised of dual-plane dipoles is used to reduce beam density on the target. All magnets have been provided to ESS by in-kind collaborators, universities and research institutes across Europe. Following the delivery of these magnets and their respective power converters to ESS, this proceeding presents the status of the installation together with the methodology and first obtained results from integrated testing phase.

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Footnotes

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