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Progress of the characterization of the components of the COXINEL transfer line towards the undulator

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COXINEL (COherent X-ray source INferred from Electron accelerated by Laser) aims at demonstrating Free Electron Laser (FEL) amplification with a laser Wakefield Accelerator, thanks to a specifically designed transfer line to manipulate the electron beam properties. The line will start with strong permanent quadrupoles with variable gradient, followed by a chicane formed by four dipoles to reduce the slice energy spread, and a second set of quadrupoles for proper focusing in the undulator, with diagnostics distributed all along. Magnetic measurements required for the simulation of the beam dynamics will be reported. And the preparation of the diagnostics, including the electron beam profile monitors relying on a five lenses telescope with two available magnifications will be presented.

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