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(G*) POS-C15 – X-ray Doubleslit Interferometer Progress at CLS

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The Canadian Light Source (CLS) is a 3rd generation synchrotron in Saskatoon that is used to produce extremely bright synchrotron light that can be used for research. The light at the CLS is produced by an electron storage ring which has an emittance of 20 nm. A 4th generation synchrotron (CLS2) is planned which will reduce the emittance to less than 1 nm and thus reduce the transverse beam size significantly, making it very challenging to measure. A doubleslit interferometer can be used to measure small transverse beamsizes. An x-ray doubleslit interferometer will be designed and manufactured for the current CLS with the goal of using this setup at CLS2. Various constraints require the doubleslit to have dimensions on the micrometer scale, making the manufacturing very difficult.

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