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## Focusing Strategies at SINQ Beamlines

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The development and use of focusing optics to improve signal is long-established at SINQ. In particular the development of adaptive optics and Coron optics inside the sample environment was the core area of improvements over the last 10 years. Furthermore, during the 2019 guide upgrade, guide geometries designed for the specific instrument needs were installed, resulting in a significant performance increase. The three different types of focusing guide systems now in place are presented in this talk. In addition to gaining signal via focusing, we improved the shielding in the hall to reduce the neutronic background originating from the neutron source.

Despite bespoke neutron guides, secondary focusing (close to sample) is still needed at the instruments, as sample sizes can vary from few cm<sup>3</sup> to few mm<sup>3</sup> in volume. Our solutions of adaptive and Coron optics can be used as an add-on to the guide system when very small samples are the target of investigations. For these particular samples, we have in recent years made several efforts to also decrease the noise from the sample environment. We present our approach and investigated possibilities, e.g., radial collimation, aperture systems and systematic study via simulation.

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