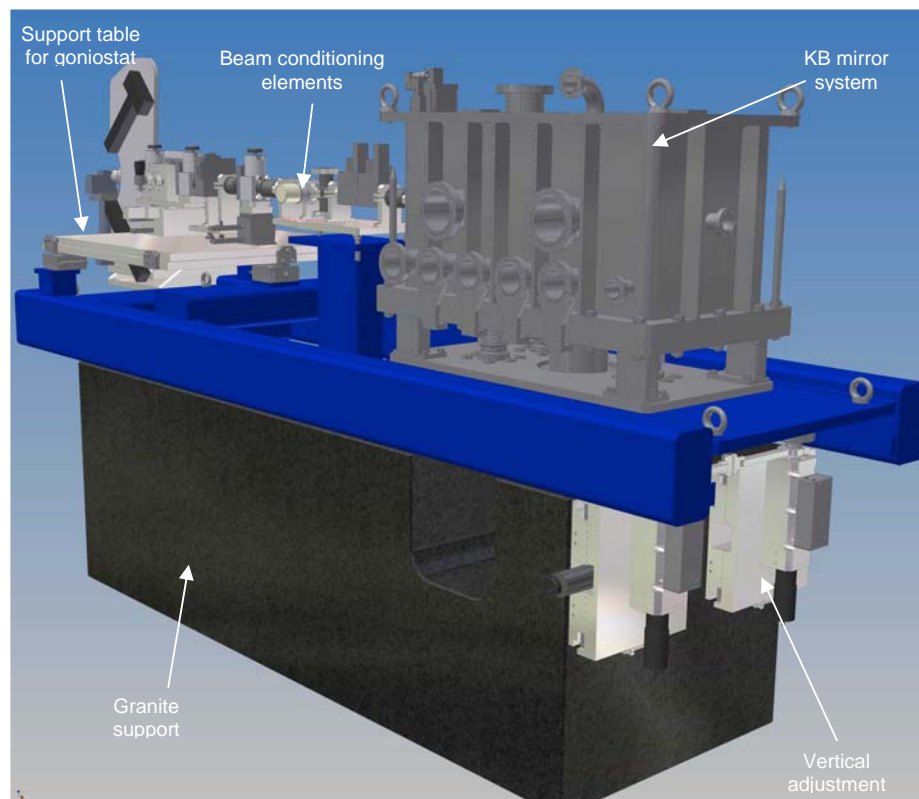


Protein Crystallography Endstation for the PROXIMA 1 Beamline at SOLEIL

Bruker ASC has built the experimental table for the PROXIMA 1 beamline at Synchrotron SOLEIL. A single large granite block supports several endstation components: attenuators, beam conditioning/characterization elements (slits, BPMs, fast piezo-shutter, nozzle) and the goniostat. The same support is also used for the adaptive bimorph KB mirrors vessel and positioning mechanics. Please note that the mirrors are mechanically decoupled by the vacuum vessel and each can be adjusted with five degrees of freedom. All motorized movements are directly encoded with high resolution linear encoders.



All components upstream of the KB are kept under ultra-high vacuum (low 10^{-8} mbar), with an ion pump, while the part downstream of the KB is designed for high vacuum (10^{-5} mbar or He environment). All main components (mirrors, BPMs, fast shutter) can be individually and remotely adjusted with high resolution motorized translations and the whole assembly, once aligned in a theta-two theta geometry centered on the KB mirrors, can be moved rigidly in order to track possible incoming beam instabilities without losing the relative alignment between the mirrors, the beam conditioning elements and the goniostat. This setup maximizes stability of the final part of the beamline (only the monochromator crystal sits on a different support) and thus provides a highly stable beam on the protein crystals.

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