

# Optical simulation tools in the OASYS suite and their applications to x-ray optics design

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Since 2013, OASYS (ORange SYNchrotron Suite) has been developed as a versatile, user-friendly and open-source graphical environment for modeling X-ray sources, optical systems, and experiments [1]. Its concept stems from the need of modern software tools to satisfy the demand of performing more and more complex analysis and design of optical systems for 4th generation synchrotron radiation and FEL facilities. The ultimate purpose of OASYS is to integrate in a synergetic way the most powerful calculation engines available to perform virtual experiments in a synchrotron beamline. For X-ray Optics, OASYS integrates different simulation strategies via the implementation of adequate simulation tools (e.g., ray tracing [2] and wave optics packages), which communicate by sending and receiving encapsulated data [3]. The OASYS suite has been extensively used for the EBS and APS-U projects, and several new tools have been created to perform the advanced calculations needed by the optical design of the beamlines and to provide accurate specifications for the procurement of the optics [4-6].

## References

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