

# PhotonMEADOW 2023

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## OASYS and DABAM: Two important projects born after MEADOW-2013. Status and Perspectives

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We present two significant projects, namely OASYS (OrAnge SYNchrotron Suite) and DABAM (DATA BAsE for mirror Metrology), which emerged as notable outcomes from MEADOW2013. Both projects have had a considerable impact on the field of X-ray science and have provided valuable resources for researchers and scientists.

OASYS [1], an open-source software suite developed for the simulation and analysis of X-ray beamlines, has been instrumental in enhancing the design and optimization of beamlines in upgraded storage rings. Through its comprehensive toolset (add-ons), OASYS facilitates ray tracing, wavefront propagation, source modeling, and data analysis, thereby enabling researchers to study X-ray optics and simulate beamline performance. OASYS continues to evolve, incorporating new features and functionalities to meet the challenges of the X-ray science community.

DABAM [2] is a collaborative project aimed at creating a comprehensive database for mirror profiles measured in the metrology laboratories of synchrotron facilities and research institutions worldwide. DABAM serves as a centralized repository of information on the error profile characteristics of mirrors used in X-ray beamlines. DABAM facilitates the simulation of real mirrors in ray tracing and wavefront propagation simulations and is completely integrated into the OASYS environment.

This talk discusses the status and ongoing developments of both projects. It highlights the impact of OASYS and DABAM in adapting and upgrading many beamlines to the new low-emittance storage rings in operation (EBS-ESRF), being implemented (APS-U), or in project (ALS-U, etc).

[1] <http://dx.doi.org/10.1117/12.2274263>

[2] <http://dx.doi.org/10.1107/S1600577516005014>

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no

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