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## Angle-resolving photoelectron energy analyzer designed for synchrotron radiation spectroscopy

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### Abstract

This paper describes design considerations, input lens analysis, ray-tracing studies, construction details and initial tests of a Kuyatt—Simpson-type photoelectron energy analyzer. The analyzer has been designed specifically for angle-resolved photoemission studies using synchrotron radiation. Design features include input and output lens systems which establish virtual slits and apertures which define the input solid angle and source region. Constant angular resolution, constant energy-resolution and constant transmission are achieved by the analyzer. The performance of the analyzer has been checked analytically using computer ray-tracing techniques and experimentally. Initial tests have verified the ray-tracing results and have shown that all the analyzer design specifications have been realized.

### Article Outline

- References

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