

## K500 operations and development

D.P. May, G.J. Kim, B.T. Roeder, H.L. Clark, G. Tabacaru, and F.P. Abegglen

### Introduction

During the 2022-2023 reporting period a total of 13 different beams, including one newly developed beam, were used for experiments, and there were a total of 17 beam tunings for these experiments. The SEE program and the radioactive-beam effort are treated separately in this progress report.

### Ion Sources

During this reporting period the newly repaired ECR1 ion source was recommissioned and again used for injection into the K500.

### Cyclotron Beams

One new beam of  $^{24}\text{Mg}$  at 35 AMeV was developed for experiments.

### Operations

For the period April 1, 2022 through March 31, 2023, the operational time is summarized in Table I. Unscheduled maintenance hours reflects the repair of a water leak in a dee-stem as well as the difficult releveling of the pole-cap on its jack-screw support after it failed to lower properly during the January shut-down.

**Table I.** 2022-2023 Operational Time

<b>Time</b>	<b>Hrs</b>	<b>%Time</b>
Science	1544	18
SEE Line	3748	43
Beam Development	444	5
Unscheduled Maintenance	1072	12
Scheduled Maintenance	1928	22
Total	8736	100